Drug & Cosmetic INDUSTRY

JANUARY 1945

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The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York, 1, N. Y., U. S. A. Business Manager, Frazer V. Sinclair; Advertising Representatives, P. W. Alexander (on leave with U. S. Army), Walter M. Brauneiss, C. R. Keeley; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly. Subscription price—$2.00 a year, in advance, Foreign Countries, $3.00. Single copies, 25c; Back issues 50c. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulations.

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Printed by Sun Printing Corp., Pittsfield, Mass., U. S.

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ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Editor
M. A. LESSER, Technical Editor
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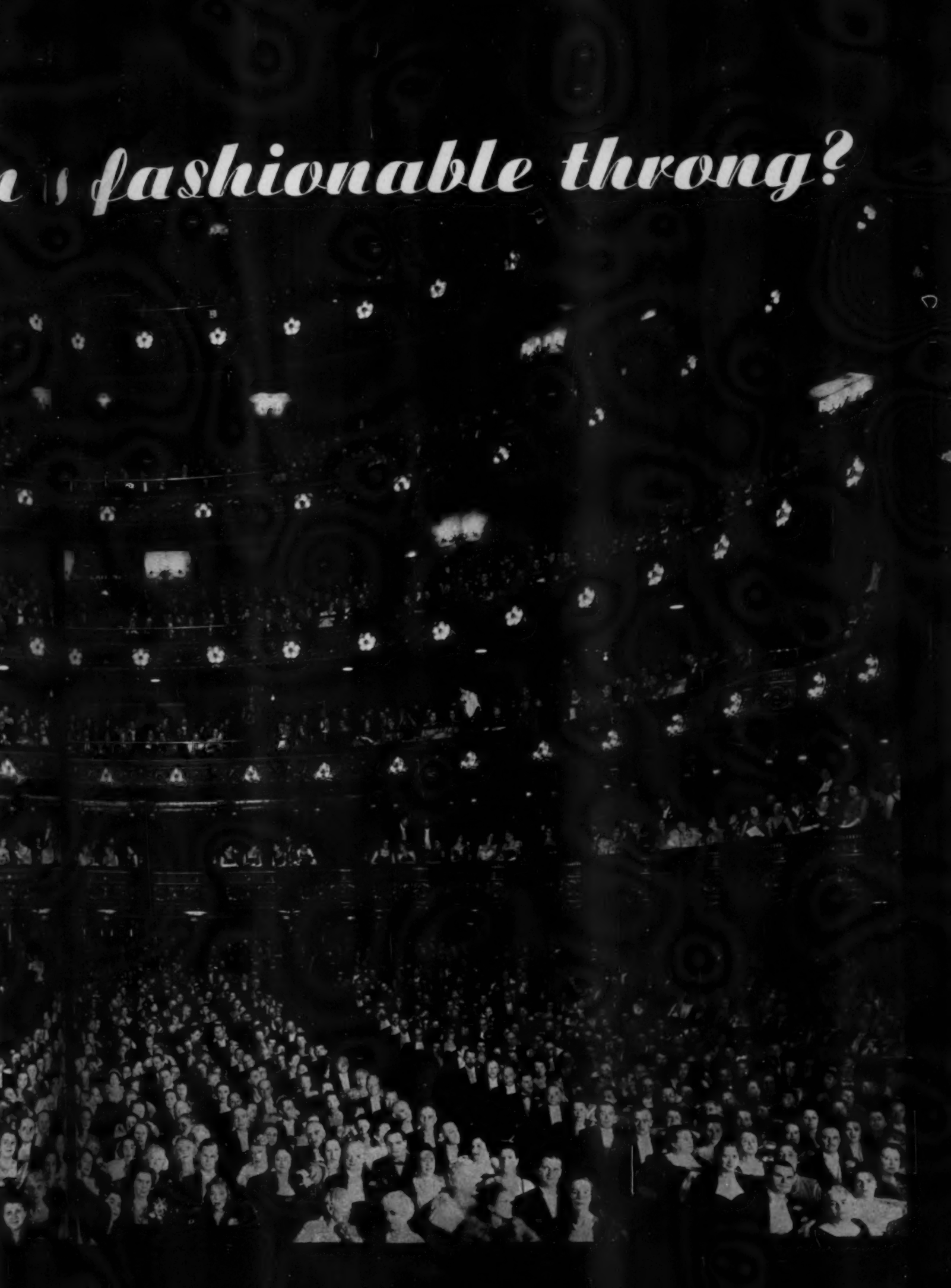

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INSIDE NEWS

JANUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Canned Vegetable Consumption More Than Doubled Since 1909

According to the Bureau of Agricultural Economics, U. S. Department of Agriculture, the per capita consumption of commercially canned vegetables in the United States has more than doubled since 1909, while the consumption of fresh vegetables increased about one-fourth. The per capita intake of canned vegetables has risen from 15 pounds in 1909 to 37 pounds in 1943. When canned weight is converted roughly to fresh weight, about 26 pounds of processed vegetables were consumed in 1909 compared with 63 pounds in 1943. These figures show how comercially processed vegetables are becoming a larger factor in the American diet.

In 1909, approximately 7.8 pounds of fresh (i.e. not commercially processed) vegetables were consumed for every pound of commercially canned vegetables eaten (on fresh-weight basis). By 1943, even with very heavy noncivilian takings from the total vegetable pack that year, the ratio had dropped to 3.7 pounds of fresh to 1 pound of commercially canned vegetables, converted to fresh basis. Although much more canned corn and peas are eaten now than before World War I, most of the increase has come in canned vegetables other than these or whole tomatoes, as is shown by the per capita consumption of 5.3 pounds of such vegetables (processed weight) in 1909 and 19.9 pounds in 1943. Tomato products account for much of this increase.

There has also been a material increase in the consumption of vegetables processed by other methods. From 0.4 pound per capita in 1942, the first year for which data are available, frozen vegetable consumption rose to 1.1 pounds in 1942, and dropped to .76 pound in 1943. Frozen vegetables are still an insignificant part of the food picture on an over-all basis.

Only small quantities of dehydrated vegetables have been available for civilian consumption. Total production was 5.2 million pounds in 1939 and about 120 million pounds in 1943. Most of the production in 1943 went to fill noncivilian requirements.

Frozen and dehydrated vegetables, while not significant on an average basis, totalled only 1.2 pounds per capita in 1942. However, they have become important items in the consumption of some groups of people, particularly those in the higher income brackets. Consumption in these processed forms may become greater after the war. 844

Versatile Stabilizer

A product separable from oats by mechanical means has unusual properties in the production of useful emulsions. The material is low in starch and relatively high in protein. It is claimed to replace expensive gum stabilizers in cream cheese and processed cheese spread, salad dressings of the mayonnaise type, ice creams and sherberts, bakery icings and fillings. In fact, it can be used wherever it is desired to attain unusual thickening, gelatinous and gummy characteristics in a food composition containing a minor amount of water or similar aqueous medium. 845

Production Line Jelly

A patent has finally been issued covering a most interesting system of continuous jelly manufacture. The principle of the apparatus is that the mixture to be treated, in this case the fruit juice and sugar, is passed continuously through a heating zone at a predetermined temperature and without substantial agitation. The equipment is so designed that the rate of passage of any portion of the mixture through the heating zone is substantially equal to the overall rate of passage of the entire mixture through the zone, thereby insuring a uniform product. In the case of jelly manufacture the results are particularly good from the standpoint of flavor, color, clarity and texture, because most of the inversion of the sugar can be brought about at a temperature below the boiling point. The absence of agitation avoids formation of undesirable scum and the incorporation of air into the product under treatment. 846

Low Titer Soap Cleans Rugs

In cleaning rugs, greater efficiency both from the standpoints of economy and thoroughness of cleaning comes from use of soap mixture containing a ratio of 8 lbs. of low titer soap and 1 lb., 10 ozs. detergent to 100 gallons of water. This solution has an active alkali content of 135 parts per 100,000 parts of water and an inactive alkali content of 100 parts per 100,000 parts of water. The alkaline pressure as measured by pH value was 11.7. Comparative tests on a series of soaps indicated that there is an optimum alkaline value at which the highest cleaning efficiency is attained. High titer soaps were found to form heavy lime soap precipitates in hard water and to be difficult to rinse out of rugs at low temperatures in either soft or hard water. If allowed to remain in the rug, they were found to cause it to soil more quickly. Of 165 rugs test-washed, all but 48 of which were 9 x 12, an average of 3.43 pounds of dirt was taken from each rug. The maximum dirt removed from any single rug was 11 lbs. and the minimum was ½ lb. 847

What The Public Likes

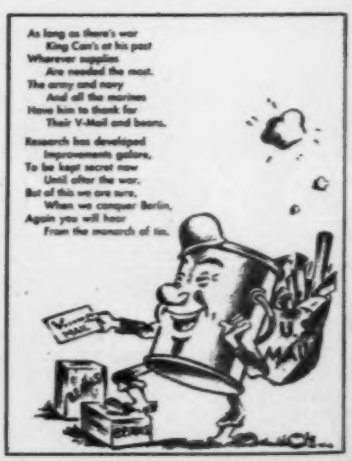
Consumer preference tests of flavor have been handicapped heretofore by the elaborate scoring systems developed by professional tasters. A statistical method which makes possible a far more simple choice on the part of a group of untrained observers representing any desired consumer group has been developed at the University of Connecticut. It deserves careful consideration by any manufacturer contemplating taste tests, and every food manufacturer should contemplate taste tests on his product at intervals. Like any other statistical method, the mathematics involved in calculating the results are at first sight formidable, but the point is that these calculations occur in the manufacturer's organization. All that the public has to do is decide whether it likes this or that better, eliminating the troublesome questions of why and how much. 848

Cream In Your Coffee

A dark greenish or greenish black discoloration sometimes mars the attractive color effect when evaporated milk is added to coffee. This is due to trusting a bit too far to the good nature of the canned milk. If some of the milk must be kept 4 or 5 days after the can is opened, it should be stored in a glass or porcelain container.

The discoloration is due to an increase in the iron content of the milk, which becomes noticeable only when a small quantity is held in an opened can for several days.

The coffee maker is also implicated when discoloration appears, since the extent of discoloration and the color developed depend on the pH of the coffee-milk mixture, and the amount of tannins in the coffee extract. The suspicion is inescapable that coffee which discolors wasn't fit to drink in any case, with or without cream. 849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A small quantity of smoked salmon, when ground with larger amounts of canned salmon selected for flavor, will produce a particularly delicate and pleasing sandwich spread. The dry smoked fish absorbs the excess oil from the canned salmon, and the smoked flavor is distributed evenly throughout the mass. The product is packed in small containers and processed at 230 deg. F. for about 35 minutes. 850

Pressure Keeps Bacteria Down

Food technologists in other fields may well be interested in a series of experiments on fluid milk which indicate that pressure of a neutral gas will cooperate with heat treatment to reduce and keep down bacterial counts. Most strikingly, milk inoculated with *E. coli*, pasteurized at 130 deg. F. for 30 minutes and held under 100 p.s.i. of nitrous oxide showed no *E. coli* on plate tests, while the control, pasteurized but not subjected to pressure, gave a count of 44,000. Pressure applied before pasteurization also is effective. 851

Postwar Supply of Lauric Acid

Extensive development of Brazil's vast Babbassu resources will bring the products of this tree to a major position after the war. While every part of the tree, whole nut, shells and husks, oil, mesocarp and epicarp, and cake residue, has commercial importance, the oil which could conceivably supply the world's demands for lauric acid containing oils of the coconut and palm bernal type, is the most important. It is used for soap, shaving creams, and vegetable butter. Caprou, caprylic and capric acids of the oil make it useful in bulletproof glass. 852

Quick Distillation

The use of infra-red radiation for distillation and evaporation involves direct absorption of the heat without transference by the walls of the container. By its use in a continuous process and with a contact time of only a fraction of a second, solutions can be evaporated which previously could not be concentrated except by lengthy and laborious batch processes. 853

Beer Proteins and Metallic Contaminants

Beer proteins and the electron microscope are getting together to answer many questions that have puzzled brewers. One of the most important is the exact nature and the source of metallic contaminants.

Protein aggregates in the beer, which seem to be those involved in haze formation, show a network of interlacing particles and filaments when viewed at 28,000 magnification under the electron microscope. When metallic ions are present chain-like clusters are formed—a distinctly different and highly characteristic one for each metal. Thus, it may eventually be possible to tell at a glance not only whether metallic contamination has occurred, but whether processing equipment or containers must be blamed.

And, always, when the source of trouble is found the remedy can be found, too. 854

Technical Topics

DRYING LINSEED OIL—The rate of drying of linseed oil is slightly accelerated by methylene blue; slightly reduced by thionin, toluidin blue, phenosafranin, and neutral red; and greatly reduced by nile blue. Ascorbic acid has little effect; barbituric acid is decelerating; thiosinamine and diethiosinamine are markedly decelerating. 855

METHANOL—Pure, synthetic methanol has been found an effective control for crown galls which weaken and often kill almond, walnut, peach and plum trees. 856

ORGANIC COPPER SALTS—Organic copper salts used as fungicides are more effective when dissolved in white mineral oil, painter's naphtha, turpentine, or pine oil, than in cottonseed oil, but the solvents are more damaging to foliage. Copper 3:5-di-isopropylsalicylate has special efficacy but at 0.1 per cent copper strength in white oil is phytocidal. 857

SODIUM SILICATE—Sodium silicate is advanced as a replacer of phenolic resins as an impregnating agent for porous metal castings to render them impervious to gasoline and similar liquids. 858

NONTOXIC ANTISEPTIC—Ethyleneglycol monophenylether is offered as a non-irritating, nontoxic antiseptic, especially active against pyocyaneus. Combined with penicillin, sulphonamides, and other antiseptics, it produces destructive effects against the complete bacterial flora of a wound. 859

WHOOPING COUGH DETERRENT—Pertussis toxin and toxoid has been developed for use in immunizing children against whooping cough and also in the treatment of the disease itself. 860

BIOTIN FROM WASTE LIQUORS—Process for recovering biotin, a vitamin of the B complex group from waste liquors, resulting from the production of fumaric acid by molds, develops about one gram of pure biotin from 2,000 gallons of liquor. 861

SHELLAC SUBSTITUTE—A thermoplastic composition derived from stump pine is said to possess properties, chemical and physical, corresponding closely to real shellac. This shellac substitute is designed primarily for use in making phonographic records. 862

DEXTRIN—Dextrin is now obtained from starch by a new method incorporating a mineral acid catalyst into granular starch by drying the starch to a low moisture content and mixing a dry gas into it. 863

STARTING MATERIAL—1-primaric acid and maleic anhydride from longleaf pine or slash pine for use as a starting material in the manufacture of resins, varnish and dyes is effected by the refining of pine oleoresin. 864

APPLE JUICE—"Flash" pasteurization can best preserve the flavor, aroma and appearance of apple juice. This process consists of holding the juice in bottles or cans for one minute after filling at a temperature of 170 to 175 deg. F., inverting the containers or turning them on their sides for three minutes, then cooling rapidly. 865

TRIETHYLENE GLYCOL—Triethylene glycol is reported the most potent bactericidal and viricidal substance yet found and that the vapor sprayed in a room has no deleterious effects but marked influence in reducing respiratory diseases. 866

NEW OIL FOR PAINT—An entirely new oil has been extracted from milkweed seeds, accumulating as a waste by-product in the manufacture of a kapok substitute from milkweed floss. Very close to soybean oil, it is useful for paints and edible purposes. 867

NEW VARNISH BASE—Rubber chloride is the basis of a new varnish for lining and coating food containers. Pure rubber chloride is cut with a volatile solvent along with a small quantity of a plasticizer, then thinned with a mixed solvent. After application the coating is cured by heating with guanidins or like-acting reagents. 868

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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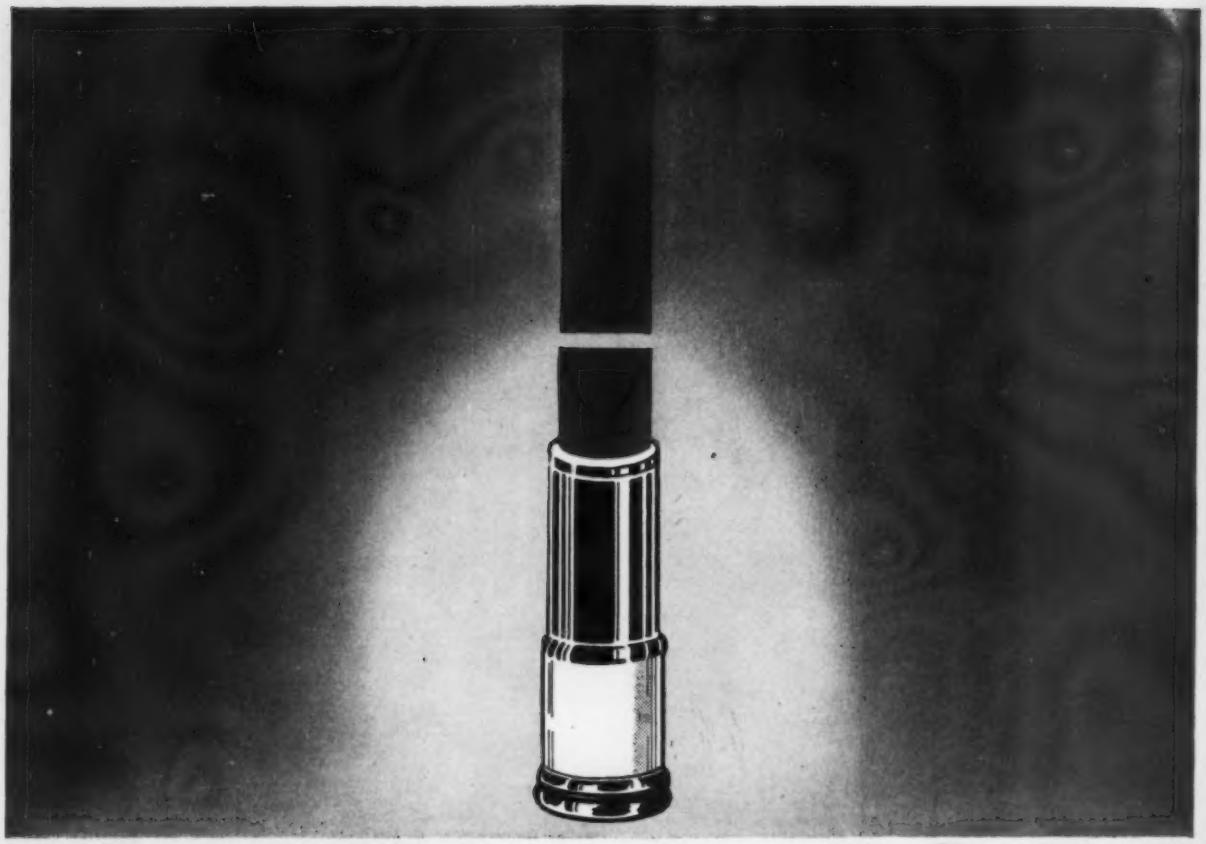

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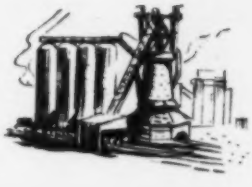

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Cosmetic chemistry has made great strides in the past three years, and in this progress Allied has played an important role. Once wartime restrictions are lifted these latest discoveries can effect improvement in YOUR cosmetic products. Your postwar plans should encompass these newly developed ideas after the war. Arrangements may be made for a consultation on postwar plans at the Allied Office in the R. C. A. Building in Radio City, New York.

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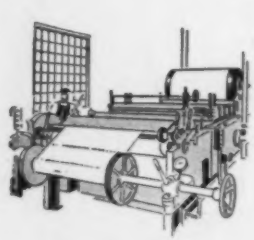

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. . . an aqueous solution containing 10 per cent hydroxyethyl cellulose. On drying, it produces a clear, transparent film, of greater strength and clarity than is obtained from commercial methyl cellulose solutions. This film is soluble in hot or cold water, but is completely resistant to the liquid and vapor phases of lubricating oil, ethylene dichloride, and other hydrophobic solvents.

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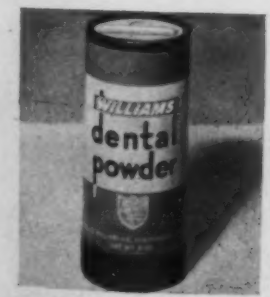

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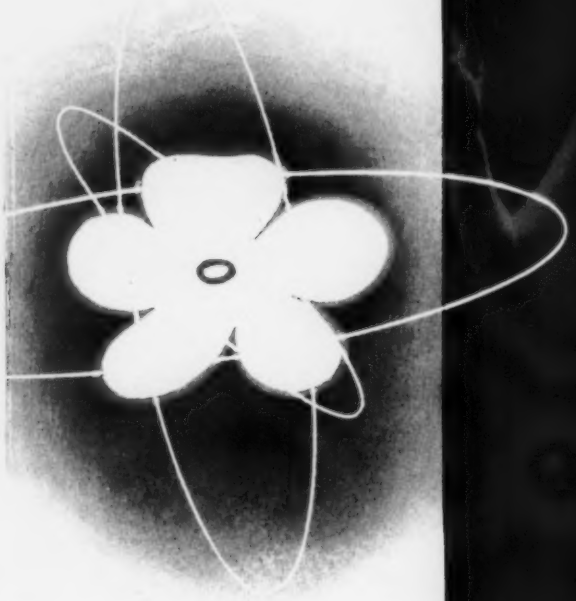

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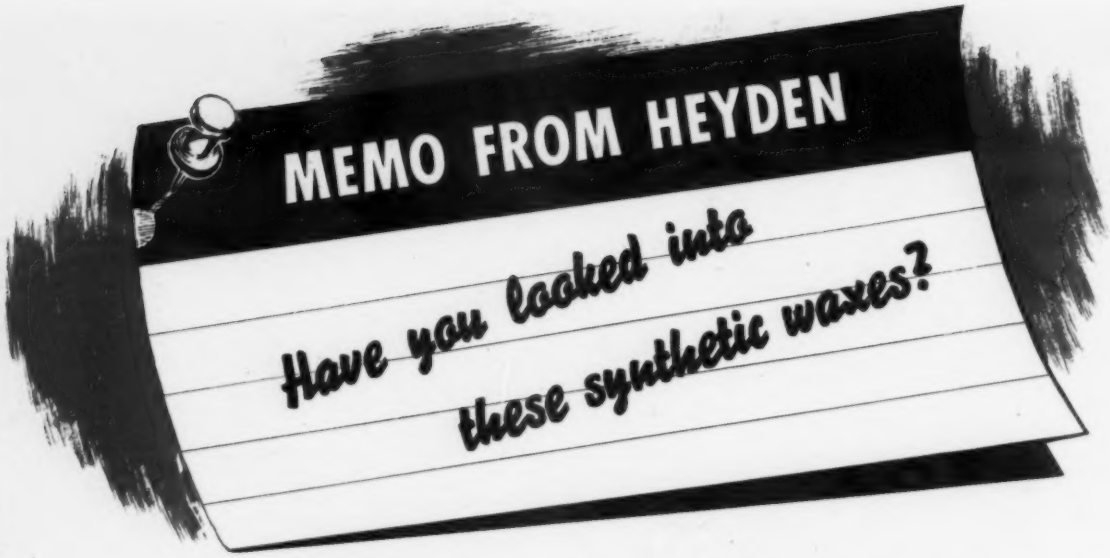

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PENTAWAX 217-N. The resistance of this synthetic wax to corn oil, mineral oil, ethanol, and water promotes its use as a coating material for shipping containers. Pentawax 217-N can also be used as a partial replacement for carnauba wax in self-polishing or dry-bright types of floor polishes. Another suggested use is as an effective antifoam agent when added to water-miscible oils used in the manufacture of paints.

PENTAWAX 286. An important property of this wax is its ability to form gels at approximately 5% solids concentration in aliphatic hydrocarbon solvents. This makes it very useful in paste waxes such as shoe polishes and saddle soaps, as well as in floor, furniture and automobile polishes. Pentawax 286 can also be used to advantage in tumble-polishing of buttons. In general, the properties of this wax suggest its employment in lubricating compositions, paints, varnishes and lacquers, printing and lithographing inks, and other applications which require a wax of moderate toughness. Due to its excellent resistance it can be used to coat papers or cardboard containers and packages.

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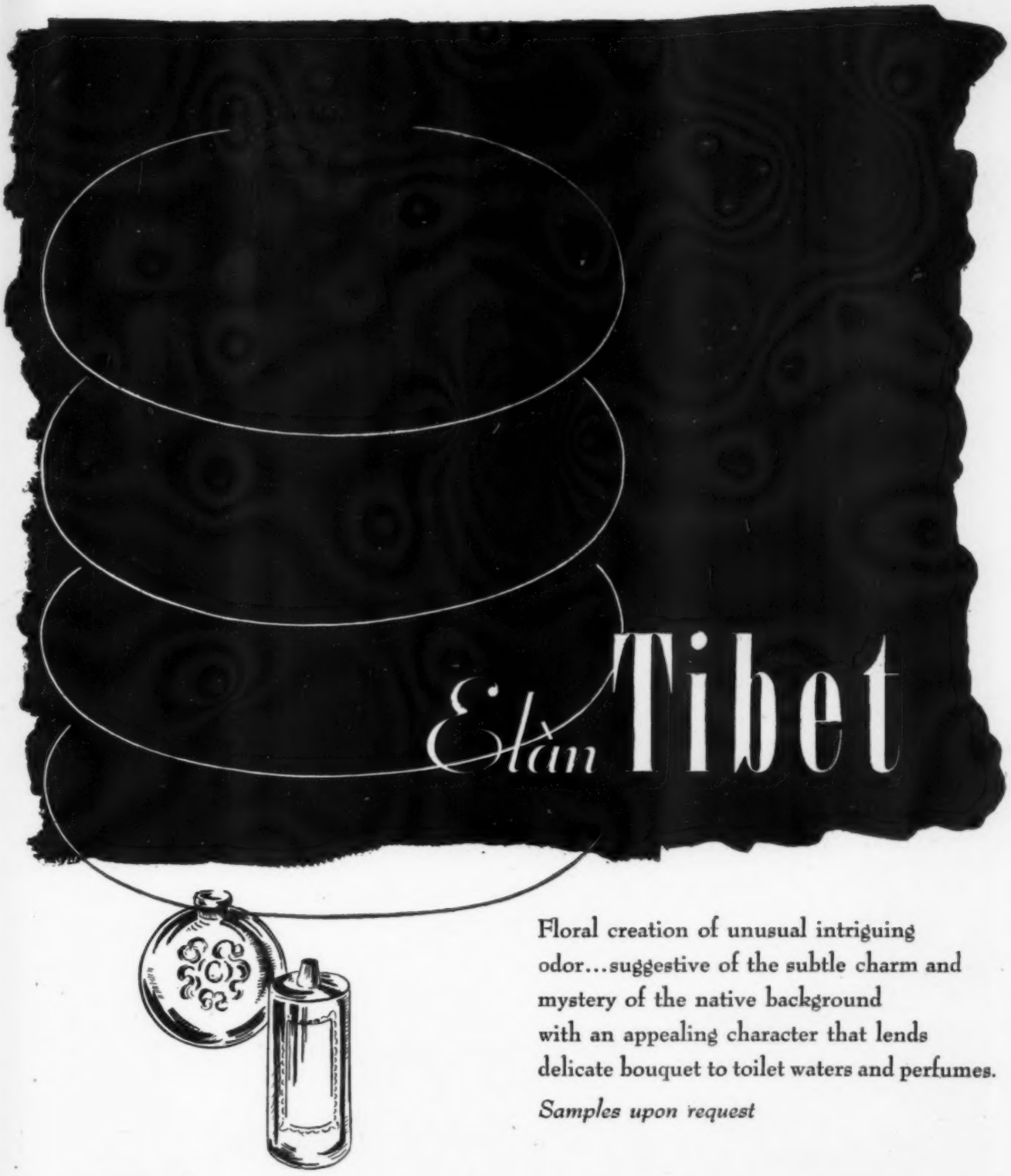

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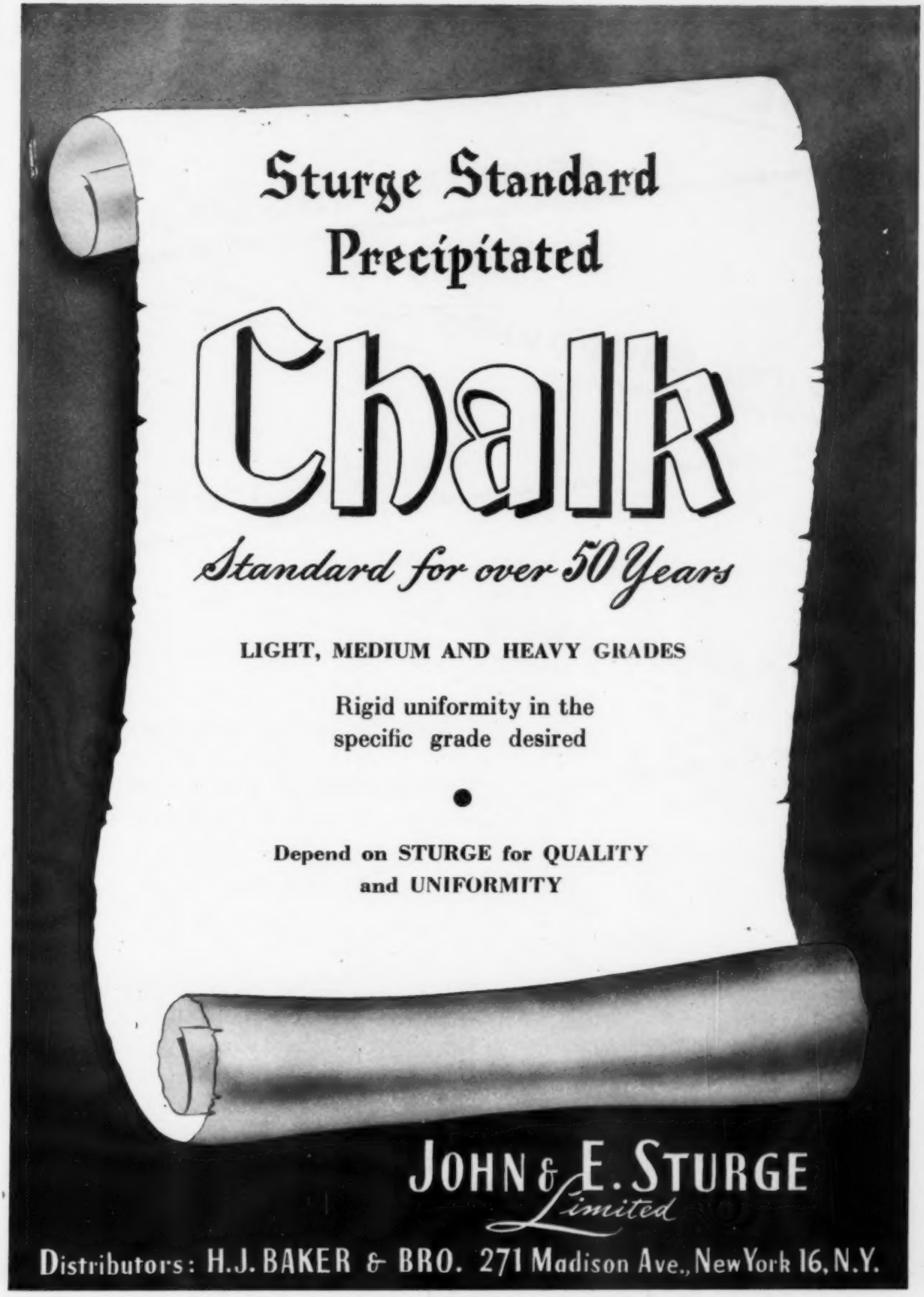
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Makers White Oils (U. S. P. and Technical) Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Odor-Free and other Naphthas; Petroleum Sulphonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils, and other petroleum products.

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• On the shores of the historic Delaware River, in the beautiful foothills of the scenic Catskill Mountains, is located one of America's most unique cosmetic institutions . . . the Port Jervis, N. Y. plant of Kolmar Laboratories.

• Here on a high elevation, surrounded with the beauty of nature, you find a group of technicians imbued with a genuine *esprit de corps.* It is this ideal working condition coupled with the most modern manufacturing methods that is responsible for the outstanding recognition Kolmar Laboratories enjoy in the private label cosmetic industry.

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In Port Jervis is one of the six strategically located Kolmar plants. Here, like in all Kolmar plants, the Kolmar system of laboratory control of raw material is constantly employed to protect your product and reputation. Research, development and manufacture of beauty requisites is an exacting science at the Kolmar Laboratories. Your products will reflect the benefits of this superb cosmetic craftsmanship.

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The Iron Pillar of Delhi

WHILE most ancient works of iron have been destroyed by corrosion, the 6-ton Iron Pillar of Gupta King Chandragupta of Delhi has withstood rust for more than 2,000 years.

According to Indian tradition, a man can establish the legitimacy of his birth if, when standing with his back against the pillar, he can make his hands meet around it.

Throughout human history, iron has played an important role in the progress of civilization. But it was not until the latter part of the 17th Century, when Thomas Sydenham introduced iron for the treatment of chlorosis and Nicolas Lemery discovered iron in blood, that iron salts began to receive wide application in medicine, pharmacy and chemistry.

For 77 years MALLINCKRODT CHEMICAL WORKS have specialized in iron compounds of QUALITY IN QUANTITY. During this time more than 30 standardized and special MALLINCKRODT iron salts, including Bromide, Chloride, Citrate, Iodide, Sulfate, Sulfide, Iron and Ammonium Citrates, Oxalates, Sulfates, etc., have been of service to chemical users. The MALLINCKRODT trademark is your assurance of chemicals which meet your most exacting requirements.

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"He's sore as hell, because he says his patients think all he has to do is use penicillin and cure anything."

KEEPING POSTED

Stock Seeks Better Drugs

IN ADDRESSING the American Pharmaceutical Manufacturers Association on the status of raw materials and containers, Fred J. Stock, WPB Chief, Drugs and Cosmetics Branch, made the following interesting observations:

"Not only must you think of markets *per se*, but your industry must continue and expand the development of new and better medicaments. Is it likely that penicillin is the perfect antibiotic? I think not. Certainly sulfanilamide was not the best 'sulfa.' Sulfanilamide led the way to better 'sulfas,' but has the best 'sulfa' been discovered? Atabrine is a satisfactory antimalarial and in some ways is superior to quinine, but it is not the 'perfect' antimalarial. Blood plasma is one of the 'miracles' of modern medicine, but it is not the perfect blood substitute. Is there a substitute for whole fresh blood? What general widely-accepted therapy have we for burns? What about the common cold—are oral vaccines the answer? I suggest that you consider these as a challenge.

"I raise these points in order that we do not become complacent about our high medical standards. The more efficient drugs are instantly recognized as essential and the medical profession of the United States will want these better drugs."

Penicillin in Tooth Paste?

NONE other than Sir Alexander Fleming, discoverer of penicillin, stated at the Royal Institute of Public Health and Hygiene last month, that penicillin may appear soon in tooth pastes as a means of combatting bacteria in the month and throat. This is moving pretty fast when penicillin is still under allocation for civilian use in the serious diseases for which it has been proven a cure.

Proprietary Research

A REPORT given at the recent scientific section meeting of the Proprietary Association states that the 220 members of the association market approximately 85 per cent of the medicinal preparations for use by laymen for the relief of simple ailments. In 1944, these manufacturers spent, in the aggregate, approximately $7,750,000 for research looking to the development of new medicinal products confirming the scientific validity of existing products, and controlling their manufacturing processes to assure the strength, quality, purity, and stability of the products. Expenditures were allocated as follows: Control and testing, $1,750,000; Product study and development, $5,000,000; Fellowships, grants, and other research, $1,000,000.

Shaving Creams and the Tax

MANUFACTURERS of lathering and brushless shaving creams should be careful not to include in their label or advertising claims other cosmetic uses, such cleansers, according to advice to the T. G. A. from the Treasury Department with reference to the taxability of these products at retail. Deputy Commissioner D. S. Bliss advised T. G. A. as follows:

"Shaving creams of either the lather or brushless type which are advertised and sold for use in shaving are not considered to be toilet preparations within the meaning of section 2402(a) of the Code and the regulations promulgated thereunder.

"If, however, a shaving cream is advertised or held out for use for toilet purposes or for any purpose for which the articles enumerated in the law are customarily used, a sample of the product together with labels, packagings and advertising matter will be submitted to this office for consideration and a specific ruling."

Vitamins Pep Up Race Horse

WE QUOTE as is from the New York World-Telegram of December 9, 1944, the following which appeared with a Hallandale, Fla., date line, and was written by Frank Ortell, staff writer:

"Vitamins have worked wonders for Smart Bet, one of the swiftest sprinters of the season, now at Gulfstream Park, where he is to make his winter start today. This horse was all but fagged out until his owner, M. J. Wolfson of Jamaica, L. I., began feeding him vitamin oils.

" 'They've rejuvenated him,' said Wolfson today. 'He has taken a new lease on life. Look at his record, winner of 14 of 25 races this year, four seconds and two thirds, and earnings of about $25,000.'

"There are probably few horses at Gulfstream Park capable of matching Smart Bet's speed at sprinting. He may well go on to win every race for which he is entered. He looks like a 2-to-5 shot today to outrun six seemingly inferior rivals."

Cosmetics After the War

WHAT lies ahead for the cosmetic industry in the post-war years is a common subject of discussion. Many are of the opinion that the volume of perfumes, cosmetics, and other toilet preparations will remain at its present high levels or rise to still higher levels when materials become available. But while the use of these products is being expanded during the present time, we think that such views are far too optimistic. It is true that more women than ever are using cosmetics in a big way; it is true that the men's lines are expanding due to their use by soldiers and workers who never used these products before; it is true that there exists today a large demand that cannot be satisfied. However, one must realize that today the income of this country is far beyond anything that ever existed before. It must also be realized that people who never had money to spend upon anything but the bare necessities of life now have money to spend for luxuries. It must be realized that the soldiers in many parts of the world find money to be the most useless commodity that there is because they can buy very little with it. These soldiers buy what luxuries they can buy, including perfumes and cosmetics, and largely gamble with the rest.

When peace comes and war production ceases, the national income of this country will be sharply curtailed so that people generally will have no money for wild indulgence in luxuries. Also automobiles, refrigerators, vacuum cleaners, houses, and all manner of things which people will need badly, will again become available. And with curtailed income people will be striving to replace these things which have been worn out during the years of war when production had been stopped. Certainly the returning soldiers who are seeking jobs are not going to have any money to throw away on cosmetics.

For these reasons we believe that it is safer to take a less optimistic view of the post-war conditions in the cosmetic industry. We feel that many people who have learned the value of cosmetics in aiding the appearance and the feeling of well-being will hesitate to give them up and will struggle to retain their use. Just as before the war, many girls would go without food to a certain extent in order to have cosmetics, so when the war is over and incomes have been cut, many people who have learned about cosmetics will continue to try to get them. This should produce a volume in cosmetics well above pre-war days, but we are of the opinion that the volume is bound to be considerably less than it is during the war years despite the present shortage of materials and the large unsatisfied demand.

Essential Oil Imports

NOW that importations of essential oils have been resumed through Government auspices, essential oil dealers and perfume manufacturers are looking forward to probable importations of essential oils from France. However, there is some apprehension on the part of the essential oil dealers that the French oils might be in the hands of final consumers or speculators in France and that this condition might make prices so high that it will be impossible to import the oils for resale at existing ceiling prices. Since French perfumes have always enjoyed a world wide demand at high prices, and since American soldiers in France are providing a considerable market for these perfumes, it is thought that much difficulty will be encountered in trying to make contracts for importation of new crop oils.

The bergamot oil that was recently brought into this country from Italy by the United States Government is of very excellent quality generally testing from 40 to 44 per cent esters. This is the genuine oil, the like of which was very rare before the war. It proves that if the producers in Italy do not have the time or the opportunity to adulterate the oil, a fine product can be had in this country. This fine quality oil has been generally available from essential houses in this country who obtained some of the material.

Another War Year

THE start of another year during the war finds conditions in this industry changed to a material extent, but still uncertain. While demand for many drug products from the military has lessened, the end of heavy consumption in war has not yet arrived, although it was anticipated some two or three months ago. Germany is not surrendering as easily as many of us thought she would. This has caused a radical change in plans for production of all sorts of products and materials, and though chemicals and raw materials for this industry have been generally easier for some months past, this condition is apt to be reversed in many instances.

The outlook for perfumes and cosmetics has improved due to easier conditions in alcohol, glycerine, and other raw materials, and also due to easier conditions in glass containers and closures. Therefore, a volume of sales topping the high record of 1944 is anticipated for perfumes and cosmetics during 1945. Also the possibility of importation of essential oils from France and further importation of oils from Italy will ease the problem of production of perfumes and cosmetics for manufacturers in this country. Also the anticipated collapse of Germany will open all European countries so that the oils and other materials produced throughout Europe will again become available.

Travel Still Looks Tough

AS CONDITIONS look now, the travel situation in this country will not be much better during 1945 than it was in 1944 and it might be worse. For even if the European war is quickly disposed of, there will be the problem of bringing the men back from Europe and of increasing the number of both men and supplies for the war on Japan. The magnitude of transporting supplies for the Japanese war is going to make the effort put into this work for the European war look small by comparison. Furthermore the great bulk of producing plants and the great bulk of the population of this country is in the East. This means that the goods will first have to be shipped the long distance to the West Coast before they can start their long journey to the scenes of action in the Far East. Don't let anyone tell you that things are going to be much easier after Germany is defeated. If you believe any such thing you are in for a rude awakening.

An Outstanding Meeting

THE recent mid-year meeting of the American Pharmaceutical Manufacturers Association held at the Waldorf in December, was an outstanding meeting in many respects. The speakers at the various sessions were of an extremely high order; the attendance at the meeting was something over 400; and the attendance at the sessions was very high, sometimes overflowing the capacity of the meeting room. The members who sat through the sessions gained real knowledge on subjects of extreme importance to them and to the welfare of their industry and the health of the country. If all meetings of the various associations of this industry were on the same high place as this meeting, we believe that any objections to the holding of meetings of this industry in wartime would quite completely vanish into thin air.

A Stupid Indictment

THE indictment of Merck & Co. on a charge of misbranding of Doryl constitutes a stupid move on the part of the Food and Drug Administration. Here is an instance where a nurse obtained an ampule of the crystalline form of the drug, put it in solution and caused the death of a patient. This was done despite the fact that the ampule of the crystalline form of the drug is for opthalmologic use only, and a different ampule—that of a solution of the drug should have been used. The packages were of different color designs and were readily distinguishable from one another, but still the FDA seeks to place the blame on the manufacturer as is always the case when a doctor or a nurse working under him makes a mistake. As we pointed out before, the particular case which came to the attention of the authorities had been preceded by fifteen other similar cases which had been covered up by the hospitals in which they occurred and were uncovered by the FDA only after the case in point came to light. How many cases were so completely covered by other hospitals and doctors will never be known.

Recently, in a service hospital, an enlisted man was to be operated upon for appendicitis and a spinal anesthesia was ordered. The nurse brought to the doctor an entirely different product than that which he had ordered. The doctor failed to note the difference and injected the wrong product into the patient. After working most of the day with all the known drugs, with artificial respiration, and other emergency methods, the patient was saved. There was no instance of misbranding here although the two products—made by different manufacturers—might be confused by someone not properly acquainted with the product which they undertake to put to use. These mistakes are simply the results of carelessness, and carelessness should not exist where human life is at stake.

Colonel Clear at A.P.M.A.

AN INTERESTING feature of the mid-winter meeting of the American Pharmaceutical Manufacturers Association was the appearance of Col. Warren J. Clear, who was sent by the War Department at the request of the association to tell the members of the Pacific War. Col. Clear gave an inspiring talk which was followed by an official Navy moving picture, entitled "The Battle of the Mariannas."

Col. Clear was in the battles of Bataan and Corregidor from which he was rescued by submarine. Following this he was in the invasion of Normandy and through the battle of Brittany. But the one thing that makes Col. Clear a romantic figure is the fact that he was the Army officer who wrestled against the jiu jitsu champion of Japan before the Emperor in Tokyo some years ago and defeated the Jap almost causing another war.

Post-war Prosperity Picture

THE post-war picture is still clouded by the manner in which the many variables which are known to exist will be resolved. No doubt there will be a pent up demand for the many things which the people of this country have not been able to buy since we first entered the war on December 7, 1941. This means automobiles, refrigerators, vacuum cleaners, washing machines, sewing machines, stoves and ranges of all types, electric irons, radios, and numerous other products which this country must have for normal living conditions. In addition, the housing condition will continue to be acute as the men return from the service and attempt to start housekeeping with the girls whom they married before or during the war. A demand of this kind should cause the wheels of industry to keep turning at a high rate of speed and therefore prosperity should be expected to occur for a fair period of time. Then there is the question of how much goods and materials we shall have to ship to foreign countries for their rehabilitation and how these goods will be financed. If we are to make heavy shipments to most of the countries of Europe and to other countries of the world in the rehabilitation that must take place, then the prosperity existing in this country will be something to remember for it should be greater than it is at the present time. However, the matter of financing shipments to foreign countries is a most important detail, and until some method of taking care of this is devised, we cannot count upon this business too strongly. However, we are committed to the principle that one country, such as ours, cannot live in a high state of prosperity while other countries of the world are starving. This we have been led to believe is the thing that breeds wars. But the matter of money or credit or whatever we want to call it, is one thing that cannot be brushed aside lightly. We hope that some genius will figure out something that can be done sanely to accomplish the purpose that we all desire.

Plant Modernization

PLANT modernization in this industry is going on at a rapid rate. This is due to the need for expansion of production by the use of existing facilities as far as possible, and it is also due to the fact that plants generally can be modernized to yield increased production with less effort and within a shorter time than is necessary for the erection of new buildings. After all, such work in the laboratories of this industry will pay dividends in the post-war period for the reason that manufacture of the products of the industry for war use has not required conversion, but merely expansion. If plants are thoroughly modernized now to give more rapid production with existing facilities and less manpower, the savings in production cost can be carried over into the post-war period.

Raw Material and Container Outlook

GIVING another report on conditions surrounding supplies of raw materials and containers for drug products, Fred J. Stock, WPB Chief, Drugs and Cosmetics Branch, gave the following information to the mid-year meeting of the A. P. M. A. in December.

Limitations have been removed upon use of glass containers; bottle production has maintained its splendid record and you should be able to obtain your needs; closures continue to be available.

Paper products, including cartons and shipping containers, are in very limited supply; Paper and Pulp division says this condition will continue after V-E day; the industry has been able to fill its needs but maximum economy and reuse is a *must*; salvage and reclamation must continue.

Collapsible tube manufacturers are having difficulty in employing adequate manpower; production of tubes should be ample to meet pharmaceutical requirements, but you should order only your minimum requirements; do not hoard; and give your supplier a chance to schedule your orders.

Cellophane order has been amended; cellulose bands and caps are not included in the restriction; however, other restrictions have been retained.

The sugar situation is very acute at present; dealers' stocks are at a new low; manufacturers in certain areas have not been able to procure their requirements although they have adequate ration coupons. OPA has allowed commercial allotments of 80 per cent of base period; your industry is still allowed 125 per cent, but I see no chance of an increase. If your supplies are not sufficient, you will have to turn to alternate materials where possible.

The corn products, glucose, dextrose, etc., are in ample supply; with a record corn crop, we do not anticipate any difficulty but you should schedule your requirements with your supplier. Milk sugar supplies are ample; WFA has stipulated production and has removed the item from allocation.

Sulfa drug production, which set an all-time high of approximately nine million pounds in 1943, has not maintained this high rate in 1944. Production in the first nine months was approximately three million pounds. In the fall of 1942, the Army placed sizeable contracts for certain sulfa drugs. Rumors were current and everyone rushed in. The situation became uncomfortably tight and we had to do some scheduling. As supplies became available, a number of companies over-bought their needs. We then experienced a decrease in production due to lack of demand. I urge you to keep adequate stocks, but do not over-buy if you should hear the Government is going to procure large quantities.

Atabrine is in ample supply; requirements have decreased and it has been necessary to reduce production. Totaquine is subject to allocation, but we are granting requests in full for domestic and export antimalarial use. Limited quantities of quinine hydrochloride are allocated for ampuls for antimalarial use.

Agar supplies are good and all restrictions have been removed.

Belladonna, ergot, atropine, and hyoscine, which were in short supply, are now ample.

Citric acid has been allocated on a 55 per cent basis for the fourth quarter; due to heavy Quartermaster demands not much, if any, relief can be expected in the near future.

Bismuth salts are available for pharmaceutica use.

The thiamine hydrochloride and riboflavin orders have been revoked which indicates ample supplies. Ascorbic acid production will permit adequate quantities for pharmaceuticals. Nicotinic acid supplies have increased and we are again allocating the acid for pharmaceutical use. The nicotinamide situation is better. Vitamin A is more available than it was expected to be some months ago. Imports of vitamin A have been encouraging.

Synthetic camphor has recently been placed under allocation, but we have been assured that ample supplies will be available for medicinal use.

Sodium perborate, sodium cyanide and other materials produced from sodium metal, as well as hydrogen peroxide and all peroxygen chemicals which have been in short supply during the past twelve months, will be even more restricted during 1945 due to increased military use.

The shortage of benzaldehyde is likely to be reflected in a tight supply of several synthetic medicinals. Benzyl benzoate is critical and other shortages may develop as unexpected military needs must be met promptly. It will be necessary to scrutinize these and many other basic raw materials such as ammonia, sulfuric acid, toluene, benzene, phthalic anhydride.

The Babassu Nut

THE babassu nut, which first came to the attention of this country when the Philippines fell and we had no coconut oil for our soap, promises to be an important product in the post-war period. The general public probably became acquainted with this product of Brazil when we were short of coffee because the ships coming up from Brazil were bringing babassu nuts and other materials instead of coffee. In this industry, the oil expressed from the nuts is used in perfumes, shaving creams, and soaps. It is stated that the billions of babacu palm trees upon which the babassu nuts grow, concentrated in the Northern tropical states of Maranhao, Para, and Piaui, conceivably could supply the entire world's needs for lauric acid containing oils of the coconut and palm kernel type.

Finding a Botanical Drug

THE New York Botanical Garden tells of a young lady coming from a large drug company to the Garden with a piece of paper upon which there was a single Chinese character which was the name of a plant described by the Chinese as containing an antimalarial drug. The drug company wished to identify the plant, obtain specimens of it, and investigate its reputed antimalarial properties.

With the assistance of the Garden staff and facilities available in the library, the scientific name of the plant was revealed, and it was found that a dozen of the plants were growing in the Garden, the plant being a hardy shrub four or five feet tall. It was found that the plant was not available in commercial nurseries, so the Garden furnished propagating material to the drug company and located two additional non-commercial sources.

Will We Lose Our Democracy?

A MOST interesting talk was given by Representative Hatfield Sumners, chairman of the House Judiciary Committee, at the recent A. P. M. A. meeting. Mr. Sumners called loudly for a return to the government by the States and by the local communities, condemning strongly the trend of many years to place all problems in the lap of the Federal Government. This trend, he said, by which the people of a democracy were yielding up their democratic rights to a strong central Government, if continued, can have only one eventual result—that we will cease to be a democracy. Either our Government must then be taken over by a strong dictator of the type of Hitler, or if we are incapable of governing ourselves, then some foreign power will soon govern us. The greatest discovery of the age, he said, was the United States Treasury. We all like directives from Washington when they favor us individually, but not when they favor the other fellow at our expense. If this trend does lead to the eventual result which he forecast, he said it would be the first time in history that a people yielded up their rights without a foreign power forcing them to do so.

These words and this warning coming from an outstanding Democratic Congressman should be taken to heart by the people of this country.

Obtaining an Ethical Product

RECENTLY we received a letter from a manufacturer selling a vitamized chocolate bar through the ordinary channels of candy bar distribution. The letter informed us that although the company "is looking out for post-war business, however, we wish to work out and promote immediately a new and interesting ethical drug product which would be promoted and advertised to the medical profession to be prescribed to patients." The letter continues:

"As you probably have numerous connections in this field you may perhaps know someone who could offer us some such formula or a new ethical preparation which we could immediately manufacture and promote to the medical profession.

"If it is not possible for you to help us in this way, please be kind enough to tell us whom we should contact who could help us to find such new product so that we may be able to start manufacturing, promoting and marketing immediately."

So it's as simple as that! How downright silly the ethical manufacturers appear with their large research laboratories, with the prolonged clinical investigations which they have conducted to try and discover new products which will be accepted by the medical profession. We wish we could write to someone and find a *new* magazine that we could *immediately* publish and promote.

Socialized Medicine and the Armed Forces

DOCTORS in the Armed Forces, especially those located in hospitals in this country, are getting a real experience in what socialized medicine would be like. They report into the hospital every day at a certain time, and they take their night shifts during each week. Generally, they have far more patients to treat than they should have, so they do as much as is humanely possible and let the rest slide. The personal interest in the patients is almost completely lacking is most of the doctors after they have been on the job less than a year. The only thing that these doctors can be thankful for is that they are getting experience that they could not acquire in many long years of private practice. However, they have to have real stamina to work hard because of appreciation of this experience, and not be bogged down by routine character of the job to which they have been assigned under Army and Navy routine.

Penicillin Production and Distribution

PENICILLIN production and distribution information was recently given by Fred J. Stock, WPB Chief, Drugs and Cosmetics Branch. Production in 1944 was more than 1,600 billion units (16 million packages), against 21 billion units (210,000 packages) in 1943. Each package contains 100,000 units, and is one day's requirement for the average case. Production in 1944 was 80 times that of 1943. Production in November, 1944 was 265 billion units, against 4.8 billion in November, 1943. Production will be 300 billion units (3 million packages) this month.

A year ago, average potency was 100 to 200 units per mgm., while now every lot exceeds 350 units per mgm., and a high percentage has a potency of 800 to 1,100 units per mgm.

A total of 2,700 hospitals have monthly quotas for penicillin. In May, the first month of civilian distribution, 12.2 billion units (122,000 packages were released. This was increased to 19.3 billion units (193 million packages) in August, and to 26.8 billion units (268 million packages) in November, and to 30 billion units (300 million vials) in December.

In 1944, total value of penicillin produced was approximately $35,000,000. In 1945, units of penicillin will increase 2½ to 3 times over 1944, and although further price reductions are anticipated, the value of 1945 production will be between $50,000,000 and $60,000,000. Civilians are now receiving $750,000 worth per month.

Penicillin Effectiveness

PENICILLIN is really a "magic bullet" with tremendous power to destroy bacteria without destroying or damaging tissue, said Dr. Chester S. Keefer, who was in charge of penicillin distribution for civilian use during the early days when the drug was exceedingly scarce. With reference to the effectiveness of penicillin, Dr. Keefer said:

"It is the most effective chemotherapeutic agent in all of the infections due to gram positive organisms, including the staphylococcus, hemolytic streptococcus, pneumococcus, the gas bacillus, and the anthrax bacillus. It is truly extraordinary that it is effective against both syphilis and gonorrhea. Certainly it is the best drug available for the treatment of such diverse diseases as pyogenic meningitis, bacterial endocarditis, mastoiditis, empyema, lung abscess, bronchiectasis, acute and chronic osteomyelitis, and infected wounds and burns." In essence, there is no other chemotherapeutic agent known that can do so much with so little for so many diseases. When we stop to consider that two years ago less than fifty patients had received penicillin, and that today there is an adequate amount for our armed forces and for those of our allies, and a moderate supply for civilians, it is a great tribute to collaborative effort."

Analysis of Consumer Complaints

By D. F. NEALON*

ALTHOUGH largely unnoticed by the medical profession and the public, in the past few years there have been great changes in the fundamental conception of the nature of our industry. At one time the impressions given by a comparatively few nostrums with extravagant and widely made advertising claims, overshadowed the honorable and essential products of our entire activity. It is a relief to know that those days have passed and that we are now able to take our place in the general pattern of national activities with proper pride for past and present achievements. While we are still banded together in this, and other societies, our chief purpose can no longer be considered solely for mutual defense. This is well illustrated by this meeting of the Scientific Section of the Proprietary Association where our attention is directed to the establishment of an industry solidly built on the foundation of scientific fact, and to its future. While the industry still occasionally receives a harsh or unjust criticism from certain professional die-hards, we need no longer fear to mention the failures that this industry, or for that matter any industry or profession must eventually experience; and our company is no exception to this statement.

For the past 17 years all complaints have come to my desk and each one has been received with some concern. However, in the past few years, it was noticed that they were fewer in number although sales during the same period were increasing. Shortly after our branch of the industry cooperated in a research program we discovered that contrary to old policies of secrecy we were all engaging in frank discussions of our various problems. Stimulated by this free exchange of information, we began to wonder if our concern was justified, and it occurred to us that a very important piece of practical data might be developed from a study of our complaint records. Would our family skeleton be so unpleasant if we dragged it out into the light of day and dusted off its mouldy old bones with a new statistical broom? Finally, and with considerable curiosity, we started the study. The result was so informative that I have ventured to bring it before you with the hope that you may be interested and thereby encouraged to make similar studies and thus add materially to the data which will be helpful to all. We believe that such reports may be truly felt to have an important scientific standing equivalent and analagous to the continuous statistical studies made in other branches of human medicine. Some of these, as for example, mortality tables, have led to astonishingly accurate conceptions.

One of our products, which is an ammoniated mercury ointment designed to lighten pigmentation and improve the complexion and which is marketed as a bleaching cream, seemed especially suitable for this study. We have had forty-five years of both practical and experimental experience with this product. It is one of a group which sometime ago was under severe criticism by various medical and authoritative bodies, partly on the grounds, now disproven, that it was not safe for indiscriminate public use; and partly because of a mistaken conception concerning its mode of action. This mistaken conception even now has not entirely disappeared. Moreover, this product is one which has maintained a steadily increasing consumption. Fig. I. shows the overall picture for 17 years, 1927 to 1943 inclusive. Complaints are shown in actual numbers, while sales are shown in thousands of dozens. In 1927 when our product contained 10% Ammoniated Mercury we received 86 complaints and distributed 41,107 dozen. One complaint for each 5,736 packages sold. Our first major variation in the trend occurred in 1933 when we received 185 complaints, and sold 69,077 dozen. One complaint for each 4,529 packages sold. At this time we noticed that we were receiving quite a few unsolicited testimonials, and decided to keep a record of them. We have included them in this study so that the picture may be complete. However, I must state that I feel that testimonials generally may be subject to other considerations and like complaints, should be analyzed beyond their face value. In 1933 we received 19 unsolicited testimonials, approximately 1 to every 10 complaints. It will be seen that in 1936 we had practically the same number of complaints as 1933, a 100% increase in testimonials and a little over 100% increase in distribution. In 1937 we find a drop in both complaints and testimonials, while the consumption remains practically the same. In this year we reduced the ammoniated mercury content in this preparation to 6% and following governmental advice discontinued certain claims which we had erroneously considered to be of major importance. These claims referred to liver spots, acne and eczema. In 1938 we again reduced our formula to contain 3% Ammoniated Mercury and in July 1939 we changed our direction folder, to conform with the 1938 F D & C Law. These changes in our directions were of minor importance and occasioned us no alarm whatever. In 1941 we again reduced the contained Ammoniated Mercury to 1½% as this had been

*Vice President, National Toilet Company, Paris, Tennessee.
Delivered before the Scientific Section, Proprietary Assn., Dec. 6, 1944.

suggested as the optimum by our continued experimental work. While these changes were taking place complaints were being reduced in number while consumption was increasing. In 1943 we received 25 complaints, 64 testimonials and sold 189,365 dozen, (2,272,380 packages). This is one complaint to every 90,896 packages sold and one testimonial to every 35,506 packages sold. In ten years, 1933 to 1943, the incidence of complaints has been reduced 86.3%, while testimonials have increased 237%. A careful review of the factors contributing to this result has been attempted. There is little doubt in our minds that these results have been strongly influenced by changes in our own thinking. Before 1936 we were inclined to the belief, at that time still prevalent in parts of the industry, that the formula of a given product and its method of marketing were almost sacred and definitely untouchable. Of course there can be no doubt that a good formula may serve one or two or even three generations but it is exceedingly unlikely that the majority can retain a maximum efficiency over this time. In 1936 we started to think of our product as being in the nature of a tool designed for certain useful purposes. We have slowly developed this point of view so that today we ask ourselves;—is this the best way we can accomplish a given purpose. Naturally our experiments must be conducted step by step, since a serious failure might well preclude all further experimentation. Over the period from 1930 we have continually made changes in the formula, in the directions and in the recommendations for use; and have still experienced increasing consumption. Included in these changes was a much franker attitude toward the consumer, which was occasioned by our increasing confidence in the defined merits of the product. The several reductions in the Ammoniated Mercury content were made after careful evaluation of their skin lightening effects, determined according to a method we originated in our laboratory. (1) These results were later confirmed by sales tests, some of which extended over a period of eight years. We found no difference in the results obtained from the various percentages. A finding which indicated that we, as well as others who found their original formula in a text book had been using more Ammoniated Mercury than was actually needed to yield the desired result. In 1939 in cooperation with other bleaching cream manufacturers, we participated in a scientific investigation of ammoniated mercury ointments. The pharmacologist engaged in this study reported that the mild

(Continued on page 116)

FIGURE 1

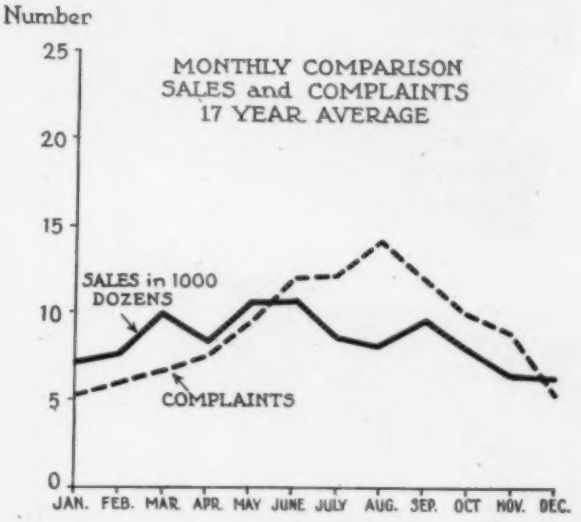

FIGURE 2

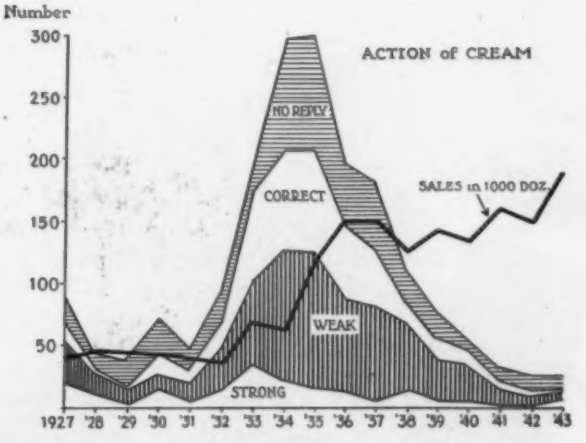

FIGURE 3

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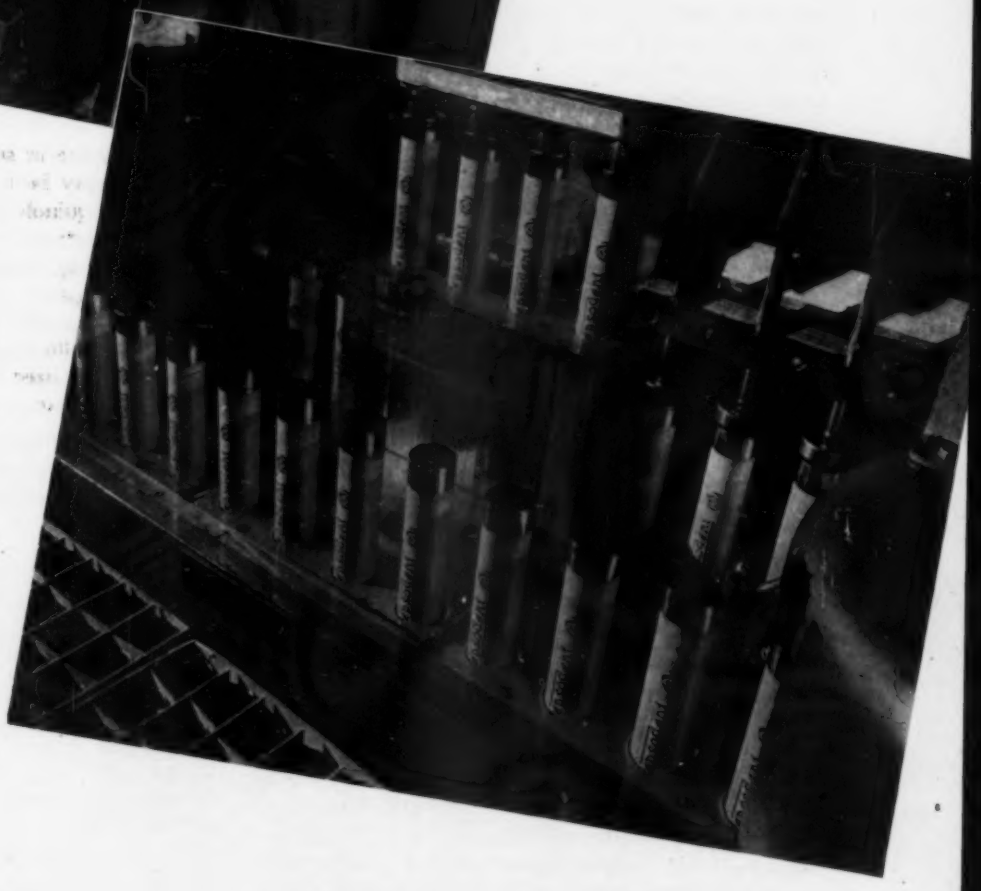


Top, left, opposite page, shows a battery of stainless steel water jacketed, tooth paste mixers with stainless steel weighing hoppers above each unit.

Top, right, opposite page, shows a mixer discharging a batch of tooth paste into a stainless steel cart. The pump at far end of track conveys the paste from cart to storage hopper.

At the bottom of the opposite page the mixer is discharging a batch of tooth paste into a stainless steel cart. Note glass-lined tank in background in which the liquid phase is mixed for paste manufacture.

In the picture just above empty tubes are brought to the table in front of the tube filling, closing and crimping machine by a conveying system.

Just to the right is a closeup view of the tube cleaning and filling stages of the machine shown above.

PEPSODENT PRODUCTION

BABY PRODUCTS

By M. A. LESSER

THERE is no need to read statistics to know that the last few years have seen a bumper crop of new babies. This in turn has been reflected in an increased demand for products especially designed for the care of the infant from the moment of birth, through babyhood and into childhood. The importance of such baby products, from the purely commercial angle, is evident in the statement, made not so long ago, that drug store purchases for babies approximate three times the annual average for adults.

It seems hardly necessary to point that products for babies should be made from only the purest ingredients available. Indeed, certain baby products have attained such reputations for purity and mildness that many adults prefer them as body powders for their own personal use. This is especially true of baby powders, which are undoubtedly the most widely used of these special products. Actually, baby powders do not differ greatly from those prepared for grown-ups. Perhaps the most important difference lies in the fact that powder intended for use on the baby's body is slightly scented, if indeed, it is perfumed at all.

As remarked by Kalish,[1] such powders should be highly absorbent, very soft, free from grit, lubricating and, very important, entirely nontoxic. To achieve these qualities, various ingredients are combined to give a well-rounded product. Stearates, such as zinc or magnesium, provide good lubricating properties and also possess good adherence. Absorption is provided by colloidal clays such as kaolin or by starch. Talc and chalk are standard ingredients. Most baby powders are borated and often a little zinc oxide is included for its mild astringent and other beneficial effects.

Although the value of an antiseptic in a baby powder is a moot question, small amounts of hydroxyquinoline base, benzoate or sulfate are sometimes added. Such inclusion may be made by dissolving about 0.15 per cent of oxyquinoline sulfate in water, mixing it with a small proportion of the basic powder ingredient, e.g. talc, chalk, etc., and thoroughly dispersing it throughout the powder.[2] Of pertinence in this connection, is Harry's[3] suggestion that baby powder constituents such as talc, kaolin and precipitated chalk should preferably be heat-sterilized to avoid any danger of possible bacterial spore contamination.

The formulation of baby powders need not be complex and their production should cause no difficulties. For example, a simple, yet efficient powder can be made from:[1]

Borax	15.0 per cent
Colloidal clay	35.0 " "
Talc	50.0 " "

If a more rounded product is desired, the following[3] will serve:

Boric acid	10.0 per cent
Zinc oxide	10.0 " "
Kaolin	50.0 " "
Magnesium stearate	5.0 " "
Purified talc	25.0 " "

The use of starch in baby powders is frowned upon by some workers. It is felt that starch, being an organic substance, may undergo decomposition and become a source of irritation to the skin, particularly in the folds and creases. It is quite likely that this could occur if the baby were not washed frequently, but one cannot overlook the fact that corn starch has been used on the skins of generations of babies. In addition, its use is frequently recommended by pediatricians. A good absorbent, starch is sometimes included in baby

powders, as in the following example given by Harry:[3]

Purified talc	50.0 per cent
Kaolin	20.0 " "
Magnesium stearate	5.0 " "
Boric acid	10.0 " "
Starch	15.0 " "

When the skin is excessively dry or thin, a "superfatted" baby powder may be suggested; the following being a typical formula:[4]

Glyceryl monostearate	1.0 per cent
Magnesium stearate	5.0 " "
Kaolin	20.0 " "
Talc	74.0 " "

Next in importance, at least during the first few months of life, are baby oils. Without going into the merits or demerits of such procedures, it is common practice in many hospitals to cleanse the new-born infant with sterile oil. This treatment is generally employed during the first few days of life. As remarked by Flack and Clarke,[5] the skin of a young infant is exceedingly delicate and excoriations and intertrigo are quite common. The application of oil to a baby's skin helps to prevent such conditions.

Later, when soap and water baths are begun, oils are used on the body following washing. Oils are also applied lightly following each diaper change to help prevent excoriated buttocks, diaper rash and other skin irritations due to urine and fecal matter. Often, when soap and water is contraindicated, as might be the case in eczemas, prickly heat or the like, these oils are employed for the care and cleansing of the skin.

Although baby oils have never been especially complicated with regard to formulation, the current trend is toward even further simplification. As a matter of fact, it has been said[6] that a completely satisfactory baby oil may be made from highly purified light mineral oil. Non-irritating and with good cleansing action, a light mineral oil (65-75 viscosity) also possesses good spreading properties. More commonly, however, varying proportions of emollient substances are added to mineral oil. Among these may be mentioned lanolin, vegetable oils, and cetyl alcohol.

Lanolin is quite frequently used in conjunction with mineral oil and it does possess considerable emollient properties. Indeed, one very popular brand of baby oil is said to consist solely of mineral oil and a small proportion of lanolin. Ethyl stearate is sometimes included with the lanolin, for not only does it provide emollient effects of its own, but it also helps to keep the lanolin in solution.[7] Illustrative of such combined use is the following formula suggested by Kalish:[1]

Lanolin	3.0 per cent
Ethyl stearate	7.0 " "
Mineral oil	90.0 " "

If desired, small proportions of cholesterol and oxycholesterol may be added to the mineral oil instead of lanolin. However, when these materials are used their proportions should not exceed the quantities of similar compounds which would be present if the same amount of lanolin were used.[7] Up to about 20 per cent of vegetable oils, like sesame, peanut or corn oil, may be used with mineral oil to provide the desired emollient effects. Sometimes various combinations of vegetable oils are employed. However, it is well to remember that the antioxidants used in such products may cause a dermatitis. Lapin[8] feels that the hydroquinone used for such purposes is the offending agent in the several cases of dermatitis resulting from the use of "antiseptic baby oil." It is also advisable to keep the perfume content, when used, to a minimum, as in the following typical baby oil based on vegetable oils:[7]

Raisin seed oil	60.0 per cent
Avocado pear oil	20.0 " "
Olive oil, deodorized	20.0 " "
Perfume	a minimum

(*Continued on page 117*)

Perfume Fixation

COURTESY PH. CHALEYER, INC.

By JOSEPH PAUL PARENTINI

It is a well-known fact that both science and mother nature have failed to produce a substance which is a perfect fixative for perfumes. This problem has attracted many chemists in the organic field. They have made some progress, but in a very small degree. It is most likely that a perfect fixative, will never be formulated and the reasons are many.

Most perfumers are not sufficiently aware of the fundamental principles involved regarding the use of fixatives. Perfumes may be effected by two entirely different methods of fixation.

First:—The judicious use of the actual ingredients of the composition with strict regard as to the volatility, in their own relative degree.

Second:—The addition to the composition of one or more substances that are aromatic and have a very high boiling point.

Before we consider the above methods, we must take into consideration the evaporation of perfume. This may somewhat be compared to fractional distillation, during which some of the materials used in the formulation, having a low boiling point, are eliminated first, after which the other odors present are driven off in the order of their volatility, leaving at the end of the operation, only materials that are heavy.

In view of this comparison—which is a very rational one—we are led to perceive that the method of adding high boiling point chemical substances is capable of bringing about, in certain cases, the very best and surprising results. However, success is obtained only conditionally, in that these substances of a high boiling point, possess the property of giving off an effluvium, harmonizing from the first moment with the very lightest notes of the compound. This is a very important principle to bear in mind when you are considering the use of fixatives in your formula. We find many perfumers not aware of this fundamental principle and when making a composition of a fresh and light note, they use artificial musk or benzyl benzoate, without taking into consideration just what part these two products play in the formulation. Let us take into consideration the composition to which the musk has been added. It is definite that a new odorous element has been added, namely the odor of the musk, but only after the evaporation of the lighter constituents. In the case where the benzyl benzoate has been added, the error is much greater, for after the volatilization of the perfume proper, nothing remains but an inert and odorless residue. These two examples should not be the cause to reject *a priori* the use of aromatics of a high boiling point in fixation. They merely demonstrate the utter necessity of studying the effects that are particular in such compositions of compounds to which they are adapted. It certainly proves to us that fixation de-

mands a much deeper knowledge of the materials used.

A very interesting and striking parallel between the fractional distillation of an essential oil and the evaporation of a perfume, for example, is oil of lemon. We first note that in the distillation, the terpenes, being the most volatile constituent elements, are distilled off at the very start, then the residue is formed in the retort and citral is found, the body responsible for the true odor in the oil of lemon, which boils at a very high temperature.

The exact phenomenon takes place in perfume evaporation, containing the light and heavy elements without a binder. The composition or mixture loses its character very rapidly and is not homogeneous, this in a word, is not fixed.

Now let us compare the distillation of the oil of neroli. It is one of the most stable of flower oils. We note in distilling that the terpenes carry along the linalool, coming over together with a proportion of linalyl acetate, which in turn is not separated from nerol and geraniol. This entrains less volatile compounds by more volatile ones and continues on to the sesquiterpenes and alcohols, which in turn are the heaviest of the constituents.

No one of the successive fractions obtained in the distillation is a clean separation, possessing its own characteristic odor. The fractions have a note suggesting neroli. In view of this it should be noted, that most of the finer type flower oils contain a very great variety of constituents, some of which are present only in traces, and that all these constituents form a sort of chain, of which successive boiling points are the links.

In reviewing these facts, the definite conclusion has been reached that the stability of a compound depends upon the narrowness of the range of volatility between the principal constituents forming its base. This joining together can be obtained by the use of the numerous esters and organic derivatives.

As described, this method of fixation permits us to obtain, besides the fixity desired, a very remarkable fineness of note, so that the compound possesses an effect which may be compared with that of an orchestration of a melody. The high notes are in harmony with the deep notes by the interposition of the proper chords between, chosen from the range of the musical scale.

This study is a fundamental principle, and though it may be confined to generalization, it enables us to conclude that the rational fixation of a perfume can not be obtained except by the structure of the composition itself, and that in building up the blend of the perfume each one of the ingredients used should act, to some extent, as a fixative for the other ingredients of volatility nearest its own.

This theory presents in practical demonstration one difficulty, that of choosing from the almost infinite variety of examples which might be cited in any particular case.

Therefore I prefer to limit my demonstration to a few materials commonly known and widely used.

To the perfumer the task is left in extending this principle to the fixation of the particular odor which he desires to obtain.

Following are a few examples showing the application of this principle in simple terms by considering the functions performed in compositions by:—

Eugenol and isoeugenol (very stable and tenacious odors)

Phenylethyl alcohol (medium degree of stability and tenacity)

Ionone (weak tenacity and very powerful diffusive effect).

The consideration of these three materials of different stability and tenacity will illustrate the practice of this attractive and certain method. First let us consider eugenol and isoeugenol. In themselves they are very stable but are entirely incapable of fixing the other substances employed with them in a composition. Materials of higher volatility which should be employed are:—

Linalyl benzoate (a very flowery note), neroli and its esters (butyrate especially).

Methyl eugenol (a light spicy odor).

Geranyl butyrate (diminishes harshness).

Now we are to consider phenylethyl alcohol. This substance, having an intermediate degree of tenacity, should first be fixed. For this reason, high boiling point materials should be added such as:—

Decyl alcohol, possesses a flowery and sweet note.

Nonyl alcohol, odor of sweet orange.

The binding together of phenylethyl alcohol with the more volatile constituents can be effected by the use of the different esters of neroli among which a choice can be made to suit any need.

Ionone, although it furnishes a special diffusive effect which is somewhat indispensable in most perfume compounds, has no tenacity whatever.

Through numerous tests and experiments, we find that it may be rendered very stable if it is carefully fixed by the use of heavy materials, that are most appropriate.

The same principal may be applied to most of the other substances, used generally in the present manufacturing of perfumes, such as geraniol, rhodinol, citronellol, linalool, hydroxycitronellal, cinnamic alcohol, methyl anthranilate, etc.

We now come to the conclusion that fixation is very important and careful thought should be given to the materials used, for this purpose.

BLACK STAR

MASCARA

By H. HILFER*

MASCARAS have been used to accentuate the eyelashes since the days of the Egyptians. Methods may have changed but certainly the primary purpose of the mascara has been to accentuate the color and give an illusion of density and length to the slender hairs of the eyelash. To accomplish this purpose a coating of color has always been applied. To keep the color where it belongs is the function of the modern mascara and how well it accomplishes this function is the gauge of how good a product it is.

The old theatrical mascaras were formulated with a primary purpose of easy, if not permanent, application. It was found most expedient to use a soap base into which was milled the color. The mass was then extruded through a soap plodder in large ribbons which were then cut into convenient lengths. This type of product served its purpose very well, but never succeeded in becoming a make-up item for street wear. It was too soluble in water and tearing of the eyes caused the color to smudge all over the face. In addition the chance application of the mascara to the eye itself caused too great an amount of irritation because of the soap present. The mascaras in use for street wear at the present time have overcome both the defects mentioned while they still serve the purpose for which they are intended.

*Associated Distributors, Inc.

With the introduction of commercially available ethanolamines a new field opened for vehicles in which soaps could be used. The ethanolamines are alkalis having the same general strength as ammonia. Unlike ammonia they are not volatile at ordinary temperatures and pressures and are easily adapted for formation of soaps. While ammonia soaps sometimes have an odor of ammonia, most of the ethanolamine soaps do not have any disagreeable odors connected with them. They are, in addition, mildly alkaline in solution and therefore cause no greater irritation if they accidentally fall into the eye than any other neutral foreign substance. In addition, soaps made from most of the ethanolamines are oil and fat soluble and therefore can be mixed directly with a water insoluble medium.

It, therefore, became possible to dissolve the soap in a water insoluble substance and to formulate the resultant product by the judicious addition of the correct amounts of its components so as to be able to form a cream by the addition of water with the brush and to apply it to the hairs of the eyelashes. Upon drying, the film left on eyelashes could contain a sufficient quantity of a water-soluble material to make it water repellent and thus cause it to withstand the otherwise harmful effects of tears or rain falling on the film.

By further manipulation of the formula it could be varied to fit into any desired method of manufacture. Instead of forcing through a soap plodder it is now possible to pour the mascara directly into moulds and to remove the finished cake after it has solidified upon cooling.

The water-insoluble portion of these mascaras consists usually of a mixture of natural waxes such as carnauba and beeswax. Waxes such as spermaceti may also be used depending on the qualities desired in the final product. The waxes in addition to supplying the water repellent characteristics also serve to stiffen the cake and to keep the film hard and free from tackiness. Hydrocarbons such as okerite, paraffin, or petrolatum or the mineral oils are immiscible with the ethanolamine saops and, if used, should be kept down to small percentages. Their use is perfectly possible however, since the presence of a relatively large amount of a wax of the ester type would cause it (the wax) to act as a mutual solvent, exerting a marked common solvent effect. Other materials such as lanolin may also be used in any desired quantity since the soaps are miscible with this agency.

The hardness of the cake and also of the film may be controlled also to a great extent by the type of soap used. There are a large number of ethanolamines available ranging from monoethanolamine to triethanolamine. In addition, other hydroxyamines have appeared such as propanol, isopropanol and others which may be used in preparations of this type. The ethanolamines are only being used as examples and the discussion of mascara manufacture is by no means limited to the use of these substances. In the case of the ethanolamines, the mono derivatives form harder soaps than the triethanolamines. In addition oleic acid soaps would be softer than stearic acid soaps and mixtures could therefore be prepared to give any type of soap desired, all of which would be soluble in the wax vehicle.

The colors used in most mascaras are the blacks and the browns. Any kind of carbon black may be used and any of the varied iron oxide browns available on the market or mixtures of these are adaptable. Since mascara is a preparation used "around the eyes" lakes and any other synthetic organic colors are barred.

In actual manufacture the waxes are first melted together along with the fatty acids to be used. The amine or amines are then added with stirring and mixing continued until the mixture is homogeneous. The colors are then stirred in and the entire mass is ground through a heated roller mill or ointment mill. The mass is then remelted and poured into moulds. In some cases the colors have incorporated into them a large quantity of air—this is especially true in the case of the carbon blacks—which would cause remelting to become difficult. The incorporation of a small amount of lanolin helps overcome this difficulty without much trouble.

In formulating, the larger the proportions of wax, the easier it becomes to pour the mass. At the same time too great a percentage of the waxes would cause the finished cake to become so water repellent that application would become difficult because of the inability of the substances to become emulsified on the addition of water. A proper balance between waxes and soaps would have to be worked out depending on the soaps and waxes used. Generally speaking 30 per cent of soaps is the minimum that could be used.

As far as the appearance of the film is concerned, it becomes glossier with increased proportions of carnauba wax, duller with increased proportions of soaps. The colors too have a decided bearing on this characteristic, the lighter fluffier carbon blacks having a tendency to dull the film. Too great a percentage of carnauba wax would have a tendency to harden the film to a point where it might become brittle and too great a percentage of color might cause it to become flaky. These characteristics must therefore be guarded against.

It is difficult to recommend a formula which would please all people and, therefore, no formula will be recommended. However, it is felt that the manufacturer will have no trouble formulating a mascara if the suggestions in this article are adhered to.

PERFUMED WAX: Will you kindly give us the issue of your magazine which carries a formula for making solid perfume, or give the formula for making them out of waxes? Hollywood.

I do not recall that bases for perfumed waxes have appeared in recent issues of our magazine. The following is a typical method for preparing such a product:

Paraffin wax	**500.0 parts**
Melt on water-bath and add:	
Perfume oil	**50.0 "**
Menthol	**0.5 "**

Mix well and pour into containers at 160° F.

SHAVING CREAMS

By E. G. THOMSSEN, Ph.D.
Consulting Chemist

IN A RECENT article in this publication,* brushless or no lather creams were discussed. The increasing use of brushless shaving creams over the lather type creams was emphasized and their advantages were set forth. In spite of these comments, it is probably true that the majority of men who shave themselves, are still partial to a shaving soap that lathers, be it in the form of a bar, a ready filled wooden, ceramic or plastic mug, a stick, a powder or a cream. So far, at least, liquid shaving soap has not made even a dent in the field. While brushless shaving creams have taken quite a slice out of the shaving medium market, the stubborn male still prefers to lather up when he shaves. He is probably influenced by the barber. This expert shaver uses a soap when he shaves and so many self shavers insist that soap which lathers on the face is the product that gives him best results.

Just as brushless shaving creams must meet certain requirements to please the consumer, so must the lather creams possess certain virtues to be generally acceptable. These are proper consistency so as to exude from the tube easily without losing form, the property of quickly working up into a close, abundant lather that does not dry on the face too rapidly, not too much cream to be required per shave or economy in use in other words, non-smarting on the face, rapid, clean, rinsing, stable shelf life, properly perfumed and packaged. There may be other essential characteristics, like hair softening abilities, lotion or cooling properties, antiseptic property and slight astringency. These, however, are more specialized characteristics, while those laid down are general.

The manufacture of shaving cream, like most paste products containing soap, is not simple. It can be a bad actor. Unfortunately when packaged into tubes small defects, like slight moisture separation, air pockets, curdling, slight hardening, lumps and color changes are very evident as it is exuded from the tube. For these reasons unusual care should be followed in the manufacturing operations. Some people permit the finished cream to stand as long as a month before filling so they may be more certain of the consistency and sheen. This is not necessary if the product is carefully controlled by chemical analysis. Through proper making procedure and laboratory control, a shaving cream may be made one afternoon and safely filled the next morning. There are various methods used for making shaving creams. The essential difference in these is the operation of either boiling or merely mixing the ingredients together. They may be designated by the soapmaker's terms of the cold process and the boiled process. It has been found through experience that while the boiling of a cream, much as soap is boiled with open steam, is more

*Drug & Cosmetic Industry, September 1944, 280.

troublesome, a smoother, more uniform product may be obtained. In carrying out the operation, however, some skill in the soap making art is required and certain precautions, like over-boiling, must be avoided or too much moisture would be introduced into the cream.

Approximately the same equipment is necessary for making shaving cream by either process. The main piece of apparatus is the steam jacketed mixing kettle in which the cream is actually made. This should be constructed from preferably stainless steel or glass-lined steel. It should be about one and a half times as high as its diameter. The kettle may be of the tilting type, but if the opening of the bottom is at least four inches in diameter and flush so as not to occlude a part of the ingredients during the making process, a bottom outlet is satisfactory. An open steam coil with perforations staggered downward at a 45° angle about six to eight inches should be included and be about two-thirds the inner diameter of the kettle. A small inner coil is also advantageous. The jacket should be hooked up so that cold water may be circulated through it. A strongly constructed, slow moving (not over 5 RPM) agitator that comes close to the outside of the kettle so as not to permit any cream to adhere to the sides, should be installed. A double motion mixer is advantageous. If this is not possible, a break should be installed. Shaving cream is very stiff at the neutral point and difficult to mix at this crucial making operation. For that reason great care should be given to the mixing apparatus. The slow motion is necessary because the cream is easily aerated through the long mixing operations usually necessary when the cream is being completed and cooled. The rest of the equipment necessary consists of jacketed melting kettles for stearic acid, light tanks, measuring vessels, scales, laboratory apparatus and filling equipment.

The raw materials needed for shaving cream do not vary greatly from brand to brand. They include stearic acid, tallow, stearine, coconut oil, olive oil, peanut oil, caustic potash, caustic soda, glycerine, alcohol, lanolin, borax, boric acid, propylene glycol, aromatics and soft or distilled water. Since the color, odor and consistency of the finished product depends upon the quality of the raw materials used to a great extent, these should be selected with discrimination and uniform types should be chosen. Careful handling of raw materials during the compounding to make the finished shaving cream, especially with straining off the dark specks which are so very often evident, is recommended.

More specifically to outline the methods used for making shaving creams, a few actual formulae are in order. These formulae will serve as a guide for any alterations which are desired. We will first consider those made by what may be designated as the simple mixing or cold process and then outline the method used by the boiled process.

A formula of the first type is as follows:—

124½ lbs. Stearic Acid (Double Pressed)
18¾ " Coconut Oil (Cochin Grade)
5 lbs. Tallow (Prime Beef)
1¼ " Olive Oil
5¼ " Oleic Acid (Refined Red Oil)
30½ " Glycerine
73½ " Caustic Potash Lye 37½° B
19 " Caustic Soda Lye 36° B
1¾ " Potassium Chloride
2 " Perfume

To compound this formula the stearic acid, coconut oil, tallow, olive oil, glycerine and water are heated by closed steam in an aluminum, tinned copper, stainless steel or glass-lined kettle until the mass is clear. This is indicated by the stearic acid being entirely molten. The mixture is then run into a suitable mixer and the agitator is put into motion. The lyes which have been properly made, settled and calibrated for Baumé are mixed together and run into the mixer as a thin steady stream. After all the lye has been added, the mixing is continued for at least fifteen minutes. The oleic acid is then added and the stirring is continued for fifteen minutes longer. A uniform sample is now withdrawn and analyzed for free fatty acid. The cream at this point should show about 4 per cent free fatty acid as oleic. If it is higher or lower than this figure it is adjusted to the correct percentage by using the calculated amount of lye or oleic acid. The cream is then mixed until homogeneous and cooled down to almost room temperature. The perfume is added. It is permitted to stand for a few days and filled into tubes or jars.

Another formula in which the modus operandi is quite similar to this one, has the following composition:

260 lbs. Stearic Acid (Triple Pressed)
41 " Potassium Hydroxide USP
8¼ " Sodium Hydroxide USP
20 " Witch Hazel
3 " Borax
230 " Water
120 " Coconut Oil Shampoo Base (60%) Soap)
160 " Glycerine C.P.
5 " Mineral Oil
2 " Perfume

To make this formula follow these directions:—

(1). Melt one-half the stearic acid (130 lbs.) in a corrosion resisting kettle; add the mineral oil.

(2). In another kettle, a clean iron one will do, pour about one-half the water, all the borax, the glycerine and the potassium and sodium hydroxides. Heat slightly and mix until dissolved.

(3). Transfer lye solution (2) into the mixer and pour the molten stearic acid (1) into the lye with the agitator in motion. Continue to mix slowly with some heat if necessary for half an hour.

(4). The coconut shampoo base has been diluted with the rest of the water, in the meantime, by the use of heat and stirring.

(5). Run the shampoo base solution (4) into the mass (3).

(6). In the interim the rest of the stearic acid has been molten. This is now run into (5) and the mass is slowly agitated until it is smooth and homogeneous.

(7). At this point a composite sample is withdrawn

and an analysis for free fatty acid is made. This should be adjusted to about 4 per cent.

(8). Cool the mass down to under 120° F. by stirring constantly and add the witch hazel and perfume. Continue stirring until smooth.

(9). Remove from kettle and store in stainless steel cans for one week before filling.

While many manufacturers prefer to use methods such as just described for shaving cream manufacture, it is my opinion and experience that where these creams are made in quantity, the boiling process has a number of advantages over this cold-made process. Boiling results in a more uniform cream, permits with more facility the handling of larger batches, results in a cream that has a better appearance and assures more complete saponification of the neutral fats contained in the cream. Batches of shaving cream up to six thousand pounds in size are handled by the boiling method. This results in minimum labor and less analytical work. Like large batches of other soaps however, great care in manufacture in handling such batches is necessary and the analyses must be accurate.

It is necessary to give but one formula for a cream made by the boiled process. Variations of this formula may be readily made. We will select a batch that yields about three thousand pounds, though smaller manufacturers may cut down the size batch to as low as one-tenth of that quantity. This amount can be made with no great difficulty by the procedure outlined. The ingredients are as follows:—

99	lbs.	Coconut Oil (Cochin Grade)
99	"	Tallow (Prime Beef)
150	"	Glycerine C.P.
198	"	Soda Lye 20° B.
1005	"	Potash Lye 20° B.
550	"	Water Distilled
825	"	Stearic Acid (Double Pressed)
27	"	Boric Acid
15	"	Perfume

Making directions for a boiled cream of this type are as follows:—

(1). Introduce the coconut oil, tallow, glycerine, all the soda lye and 200 pounds of potash lye into the mixing kettle. Turn the steam into the jacket and run the agitator until all the fats are saponified. This usually takes about half an hour, though a longer time does no harm.

(2). Add the rest of the potash lye and stir through the mix (1).

(3). Turn the steam into the open coil, continuing to run the agitator. Run in slowly so as to mix well, 520 pounds of the water.

(4). The stearic acid, which has been molten in another suitable kettle by closed steam, is now run into the mixer by straining it through a muslin cloth, formed as a bag over the pipe outlet. A thin, steady stream is desirable. As the lye is neutralized, the mass thickens and becomes more and more difficult to stir. It is stiffest at the neutral point. A composite sample of the cream is taken and the mass is brought exactly to neutral by the use of lye or stearic acid, whichever is necessary. The tests are carried out in the laboratory. If lye is added, it may be diluted about one-half with water. This procedure may be simplified by determining in the laboratory, ahead of time, the amount of lye, fats and fatty acids required to produce a neutral soap.

(5). When the cream has been neutralized, shut off the open steam coil and add with the agitator running, in quantities of about a quart at a time, a mixture of the boric acid, made by stirring it with the 30 lbs. of hot water, that has been kept back. This addition of boric acid liberates fatty acids from the cream and as they increase to the fatty acid side, the cream gradually softens and eventually becomes honeylike in consistency. Agitation is continued until the mass is smooth. A composite sample is then withdrawn in an extraction flask. This cream sample is rapidly cooled with cold running water, running over the outside of the flask, or by packing in ice and twirling the flask occasionally. It is titrated for free fatty acid as oleic by the usual analytical methods. The finished batch of shaving cream should be corrected to between 3% and 4% free fatty acid by using either potash lye or boric acid. One pound of potash lye 20° B. neutralizes one pound of fatty acid and one pound of boric acid sets free about 2.83 pounds of fatty acid.

(6). The cream is now tested for total fatty acid content. This should run between 32% and 34%, 32% in the Summer and 34% in the Winter. If it is too high, more water is added and if it is too low, the excess water is boiled off by dry steam in the jacket. The fixing of the total fatty acid content may be quite accurately checked by measuring the volume of the cream in the mixing kettle after settling it for about half an hour and also by weighing the finished batch after a number of batches have been made. Most plants operate on this basis, once they have established the proper procedure.

(7). When the cream has reached the desired free fatty acid content and total fatty acid content, cold water is turned into the jacket of the mixing kettle and agitation continued for several hours or over night. The perfume is then added and stirred in thoroughly. The cream is run out of the kettle into tubs or directly into a storage tank, connected to the tube filler. If a storage tank is used it should be four times as long as its diameter as this affords better flow to the cream filling machine with less opportunity for trapping air. The hopper tank should be constructed from stainless steel or tinned copper. There is no harm in permitting the shaving cream to stand in covered tubs for weeks if this is desired. In such cases, however, good practice demands the use of some type of mixer, usually a change can pony mixer to agitate the cream before it is put into the filling hopper.

The idea of depending upon a formula rather than chemical control is probably the biggest mistake that can be made. An analytical chemist is a very good asset to any manufacturer who makes shaving cream in quantity.

U. S. SIGNAL CORPS PHOTO

Conquest of Bacteria

By CHESTER S. KEEFER, M. D.*

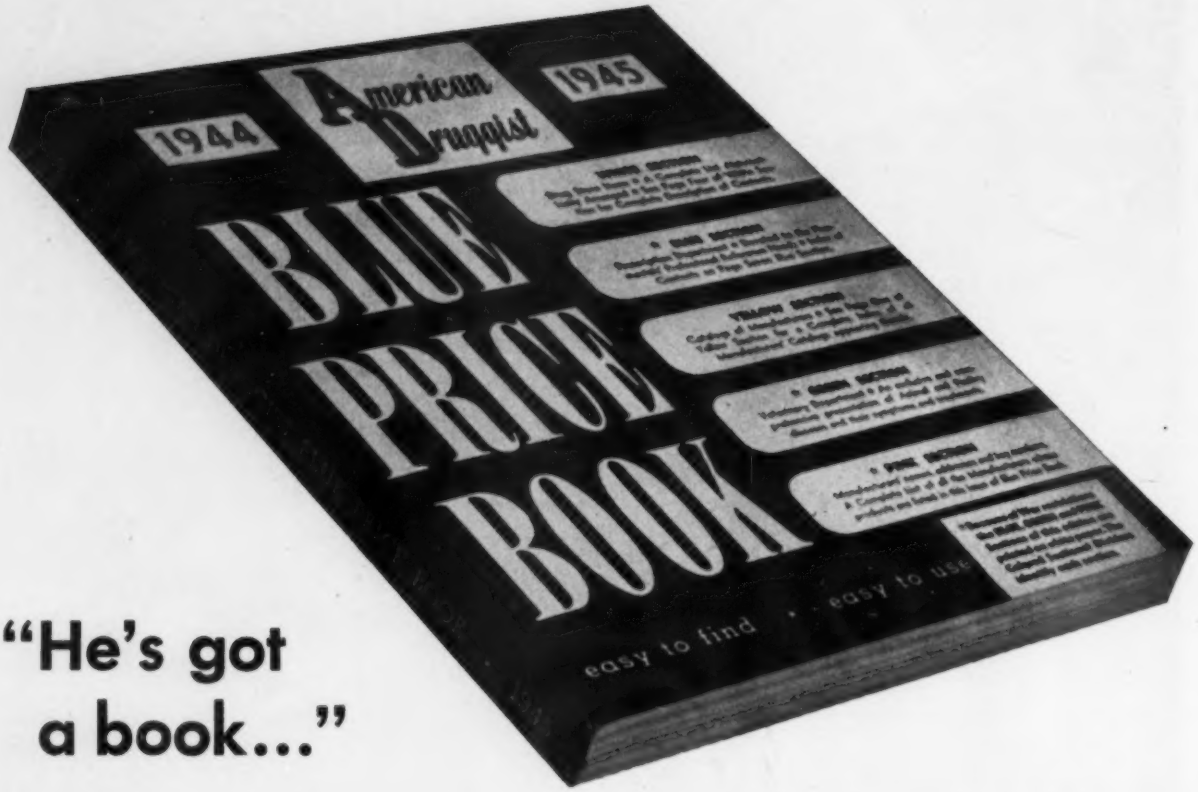
THE sulfonamides were tested first in hemolytic streptococcal infections. The results which were obtained in puerperal sepsis, and in meningitis, soon resolved any doubts that were in minds of those who questioned its therapeutic value. The fatality rate was reduced to one-fourth of its previous rate in puerperal sepsis; in streptococcal meningitis, which was almost always invariably fatal, the case fatality rate was reduced to about 40 per cent. In those instances of infection which are associated with a lower fatality rate, the course of the disease was shortened and the incidence of complications has been reduced.

It is unnecessary to say that this group of microorganisms is among the most important of all disease-producing agents. As a result of surveys by the U. S. Public Health Service, we are told that in many civilian communities the hemolytic streptococcus is responsible for 5 per cent of all measurable illness, and at least 20 per cent of all bacterial infections of the respiratory tract. In the Army and Navy, hemolytic streptococcal infections rank high as a cause of illness and disability. Aside from the damage it produces in the respiratory tract, this group of organisms may invade any organ of the body and produce serious disease.

Great strides have been made in both the prophylaxis and treatment of all streptococcal diseases. I want to tell you about recent successes obtained by the Naval Medical Corps working under the direction of the Division of Preventive Medicine of the Bureau of Medicine and Surgery. The experience which they record has been large and the results have been convincing. More than 600,000 men received daily doses of sulfadiazine for a period of 6 months to test its protective power against respiratory diseases. It was demonstrated "that chemophrophylaxis was 85 per cent effective in preventing bacterial infections of the respiratory tract under conditions which were favorable for the dissemination of respiratory pathogens and unfavorable to

(*Continued on page 122*)

*Wade Professor of Medicine, Boston University School of Medicine. Delivered at Scientific Award Ceremony of American Pharmaceutical Manufacturers' Association, in New York, Dec. 11, 1944.



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and what a Book!

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when they arrive and they're ready to go to work immediately. Double purpose packages—shipping box plus product display—win dealer's approval. Just a simple setting-up operation and they go into sales action immediately—thanks to H & D's simplified construction. Each box is a master salesman, prepared by expert package engineers who know how to design the kind of sales packages retailers prefer.

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Trim, attractive, compact H & D Shipper-Display boxes offer these outstanding features; safe transportation; novelty die-cuts; modern design; rich color printing; attractive displays. Make your packaging pay a profit by including it in your merchandising plans. H & D's booklet, "Pack to Attract" is full of profitable ideas. Send for your copy, today.

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FROM CANS TO CROWNS, FIBER

1. SUPPOSE YOU, as an average American, are 45. When you were only 5, Continental Can Co. began to make quality cans for food. Canned foods, with their convenience and economy, were just beginning to be the everyday part of your life they are now.

2. WHEN YOU WERE A DOUGHBOY in 1918, food in Continental cans helped you fight, just as it's helping millions of GI's everywhere today. Then, as now, Continental research developed new ideas and skills to give you new and better things in cans.

5. YOU WORKED HARD when this war began, often lunching at your desk. The liquid-tight paper containers and cups your coffee and ice cream came in are now made by Continental. So are fiber drums in which so many dry products are safely shipped.

6. WHEN THE ARMY CALLED you for procurement duty you realized the great job containers are doing in war. We're making metal and paper containers for virtually every branch of the armed forces and Lend Lease, plus hundreds of special war products.

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CONTINENTAL PRODUCTS: Metal Containers • Fiber Drums • Paper Containers • Paper Cups • Plastic Products • Crown Caps and Cork Products • Machinery and Equipment • **OPERATING DIVISIONS:** The Container Company, Van Wert, Ohio • Keystone Drum Company, Pittsburgh, Pa. • Boothby Fibre Can Division, Roxbury, Mass. Mono Containers, Newark, N. J. • Plastics Division, Cambridge, Ohio • Bond Crown & Cork Company, Wilmington, Del. • Cameron Can Machinery Company, Chicago, Ill. • **FOREIGN SUBSIDIARIES:** Continental Can Company of Canada, Ltd., Montreal • Sociedad Industrial de Cuba, S. A., Havana

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the Continental Family

AND PAPER CONTAINERS AND PLASTICS

3. BY THE TIME YOU were 33, thousands of products besides food, from tooth powder to paint, were coming to you in sturdy, protecting cans. You bought motor oil for the first time in refinery-sealed cans, an advance pioneered by Continental.

4. REMEMBER THAT FISHING TRIP in '38? You took your favorite beer in Continental Cap-Sealed Cans because they were so convenient and easy to open. That year we started making crown caps. Since then we've made billions of them for cans and bottles.

7. WHEN YOU GET BACK on the job, you'll find a lot of things of colorful, durable plastics in your office and home—many of them fabricated by our Plastics Division. Today we're making plastic products, from bomber enclosures to battery cases.

8. LIFE BEGINS AT 40 for Continental Can Company! On our 40th anniversary, we suggest that you keep your eye on Continental for packaging and plastic products. And keep your eye on the Continental trade-mark, too! You'll be seeing the Triple-C more and more in industry and in your home.

CONTINENTAL CAN COMPANY

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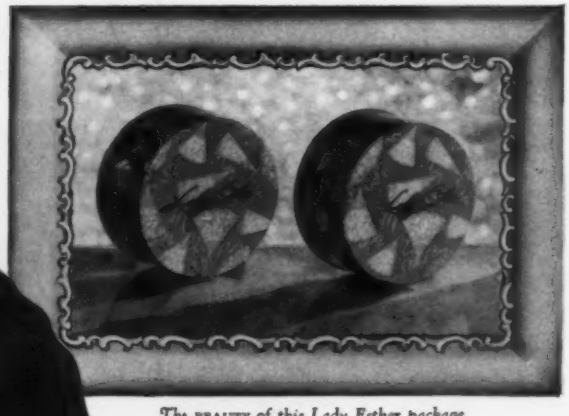
Leslie Brooks featured in Columbia's technicolor production "*Tonight and Every Night*"

Beauty

DOES IT . . . Every Time

ON THE SCREEN the alluring beauty of Leslie Brooks draws audiences, increases "box office."

OVER THE COUNTER the eye-stopping beauty of an artfully designed package draws buyers, increases sales.



The BEAUTY *of this Lady Esther package helps make sales—*AT THE POINT OF SALE

THE 5 ESSENTIALS OF A SELLING PACKAGE

1 It must be practical, production-planned, economical to manufacture, easy to fill or pack.

2 It must fully protect and conveniently dispense the product.

3 It must be easy to handle, stack, display.

4 It must proclaim the quality and identity of your product.

5 It must be notably "good looking," memorable, ATTRACTIVE!

W. C. *Ritchie* and COMPANY

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SET-UP PAPER BOXES • FIBRE CANS • TRANSPARENT PACKAGES

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS

SEVENTY-NINE years of packaging experience has taught Ritchie that—with all the complex, practical factors involved in the production of a package—it is always possible *and extremely profitable to add beauty!*

WAY TO A BETTER SELLING PACKAGE

The Ritchie way integrates art and artisanship—to give you a better selling package at a low unit cost. A package that quickly, unmistakably identifies, fully protects and conveniently dispenses your product. A practical, production-planned package—easy to fill or pack, easy to handle, to stack and display—but *above all* designed for eye-appeal, for quality-impression, for *beauty that sells!*

Packaging and Selling

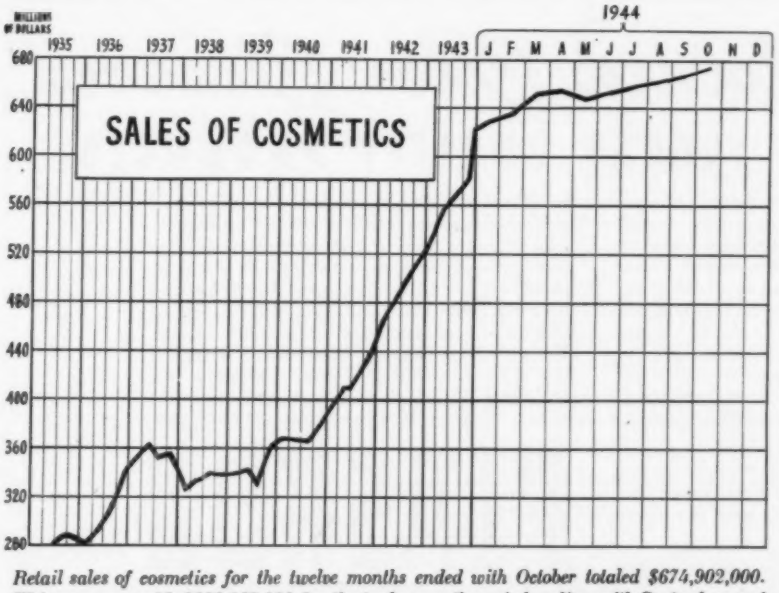
Fanning the Breeze

Making guesses at the final figure on cosmetic sales volume is a popular pastime about now. It will be some time yet before we have the final figures and they will be duly posted on our chart, but for what it is worth we give you our guess as of today—about $750,000,000 at retail. As our final figure for 1943 was $621,861,000 a slight calculation will show that we anticipate an overall increase of about 20 per cent.

We find, too, that this figure leads to plenty of arguments. By and large, the big companies feel that we've exaggerated things for they feel that the increase is limited to say ten or fifteen per cent. In this, naturally, they are conditioned by their own experiences. They know what their own increases are and it is difficult for them to see how the industry total can be better, for individually and collectively they represent a relatively high percentage of that industry total. We have pointed out that the big companies are limited, by their very size, from taking complete advantage of conditions as they exist today. We have also argued that the relatively large number of smaller companies have shown increases which may be measured in hundreds of per cents and that there are enough of these companies registering fantastic increases in dollar volume to bring the overall industry percentage to twenty per cent or better.

On the other hand, when we mention a twenty per cent increase to some of those in the latter classification, they are inclined to do one of two things. Either they infer that we don't know what we're talking about or they scoff at the larger companies and hint that these latter don't know how to conduct a business. The old, big names don't impress these smaller and newer companies much any more as they pass and surpass what used to be considered very respectable sales figures.

In any case everybody is doing all right and more than all right and the danger lies in smugness and a deterioration in business ethics and morals. There have been certain evidences of this which is giving serious concern to those who have the industry's welfare at heart. Although it's trite to say so, there is a desperate war on and the cosmetic industry has been lucky beyond belief. In the face of that simple fact, let's have a larger measure of humility and less of what, even in the most charitable terms, can only be described as very poor taste.



Retail sales of cosmetics for the twelve months ended with October totaled $674,902,000. This compares with $666,867,000 for the twelve-month period ending with September, and with $584,411,000 for the twelve-month period ending with October 1943.

Advertising and Selling Vitamins

When you really get looking into the vitamin market as we did in August and again in the December issue, you run into things which really classify as things you should have known all the time. The most dramatic thing, it seems to us, is the fact that one of the ethical houses did 24 per cent of the business, while all seven of the largest nationally advertised brands together did only 12½ per cent. The important thing, it seems to us is that even we who are in the advertising and publicity business can be so swayed by the printed and spoken word that we mistake volume of advertising for volume of business.

Now that the vitamin peak has been reached and passed it is obvious to everybody that the ethical drug manufacturers are the really important factors in the business. The point is that they always were the only important ones. It always took something more than just a sales organization and a large advertising appropriation to sell vitamins successfully.

Plaskon Molded Color Closures

ON AMERICA'S FINEST QUALITY PRODUCTS

THE NATION'S STORES are bright and attractive with fine merchandise, graced by sparkling, serviceable, low-cost closures of Plaskon Molded Color. The utility value of Plaskon Molded Color makes it unusually adaptable to the closure needs of a great variety of liquids and solids in the drug, cosmetic, food, and general merchandise industries. It is highly resistant to common organic solvents, weak acids and alkalies, oils and greases. It is strong, shock-resistant, non-shattering.

Manufacturers using molded Plaskon secure the full power of color as an eye-catcher and salesmaker. People *see, buy* and *use* these products, made more attractive and inviting with closures and containers of Plaskon. In gay, brilliant hues or restrained tones, ranging from jet black to neutral white. Plaskon colors can be selected and molded to harmonize with the character of a wide range of products, and increase their sales appeal. We give you helpful assistance in suggesting designs, qualified Plaskon molders, and technical advice so that you can efficiently adapt Plaskon Molded Color to your use.

PLASKON DIVISION, LIBBEY · OWENS · FORD GLASS COMPANY
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PLASKON
TRADE MARK REGISTERED
MOLDED COLOR

The Cosmetic Trend

Manufacturers of toilet goods and cosmetics perfecting their plans for 1945 will find much to encourage them. There is plenty of evidence that the larger buyers are ready to go ahead on the assumption that there are no revolutionary changes in sight, and that the consumer will take necessary adjustments from war to peace very much in her stride.

In other words, after a few months of uncertainty and lack of direction, the conviction is now growing that 1945 will be not much different from its predecessors as regards volume and that the more concrete problems of reconverting formulas, where required, and keeping packaging and the quality of the product abreast of the times can safely be left to the manufacturers.

Cosmetic counters have done well over the Christmas season, both for gifts and staples, and there seems to be no reason why present conditions should not carry into the next year. In support of this assumption, it is stated that, contrary to earlier predictions, women have continued at their war jobs and, apparently, have no intention of relinquishing paying employment as long as they find work. Certainly, no let-down has been experienced yet for occupational cosmetics. In addition, much new business has developed from customer groups who, in the more recent past, largely bought low priced merchandise but are now learning to appreciate quality products.

While drug store buyers and those of the variety chains are, probably, inclined to look upon this up-grading of the quality and price curve as a purely neighborhood development to be encouraged or discarded as conditions dictate, some department store buyers are beginning to wonder whether this new trade can stay with them indefinitely.

It is pointed out, with some justice, by these buyers that the toilet goods department is a section of the store and as such was bound to benefit by the general improvement of the store clientele that has been noticed in many cities. As long as customers do much of their shopping on the street floor, toilet goods counters can expect to sell more of the merchandise that is generally bought by the rank and file of the street floor customers. If basements should return to their normal activity these customers may be lost to the toilet goods counters. Nobody argues that a lower grade of merchandise should be introduced to hold the new customers. Experience has shown that this is neither practicable nor profitable. It is suggested, though, that separate displays of goods of present cost rating should be made in suitable basement locations in the hope of catching the migrating customer in her new abode.

Attempts to test the theory are apparently under way but can hardly be conclusive, in view of the fact that purchasing power is still remaining high. However, manufacturers will do well to study this situation from their own angle.

Of course, this all assumes that customer psychology will return uncritically to its pre-war pattern. Whether it will is anyone's guess. After what they have learned during the last years many top executives begin to wonder, however, whether the pre-war basement will ever come back, or whether the current shift of mass purchasing power from the $1,000 to $2,000 customer group to the $3,000 to $4,000 (eventually $5,000) will not make it more profitable to dispense with the basement merchandising idea in favor of a more realistic policy that makes goods of all prices equally accessible.

While the independently functioning department, no doubt, has shown its superiority and is turning in excellent performances, per square foot of utilized space, more stores are experimenting with separate displays of seasonal cosmetic items as gifts etc. for customers who are not planning to visit the larger toilet goods department. Basement displays might fall in with this trend.

City Markets

The argument whether the large metropolitan city markets offer a more responsive field for cosmetics than the average city of middle size is, apparently, clinched in favor of the former by the fact that toilet goods departments in New York department stores have for several years consistently run ahead in "per cent to total store" sales at the rate of 0.4 per cent to 0.5 per cent above the national average. Moreover, the same is true as to stores with an annual sales volume of over $10,000,000 (those generally found only in the very large cities) where "per cent to total sales" outrank the $1,000,000 to $2,000,000 sales volume stores (tops in the medium-sized cities) to the tune of 0.3 per cent, according to the Controller's Report. The large city stores reported 118 per cent more transactions in 1943 over 1942 against 113 per cent in the $1,000,000 to $2,000,000 class.

Winged Victory

Elizabeth Arden has for several years advanced the theory that any woman can wear any fashion colors becomingly if her make-up is properly keyed to them, and she pioneered in harmonized make-up designed to bring this about. Her latest addition to a long series of fashion-right lipstick shades is Winged Victory, a color that is said to be all things to all women, taking on the personality of every wearer, giving an exciting fillip to every costume, amazingly natural and yet effective. This new make-up shade is being introduced at a season of the year when many women become bored with their wardrobe, their make-up and their surroundings. A complete coordinated color harmony has been evolved for Winged Victory and a nail polish keyed to the lipstick color is also available. A bow to Miss Arden, who to all appearances still sets the pace in make-up colors.

The Voice

There should be a gag somewhere in the fact that Frank Sinatra has switched from vitamins to pancakes but we haven't been able to pin it down. At least we're keeping him in this industry and maybe he'll be able to switch his most ardent admirers from bobby socks to cosmetic stockings.

If Frankie ever is sick for a night or so, his new sponsors might do worse than substitute that w.k. basso profundo who heads their packaging division.

Lightning Strikes

From Revlon, flash, Sadie Thompson show struck by "Pink Lightning", end flash, all the girls in the New York musical that is a modern version of "Rain" are flashing Pink Lightning on lips, fingertips and even toe tips.

doing*

Chef BOY-AR-DEE QUALITY FOODS, INC.
MILTON, PENNSYLVANIA

November 11, 1943

Mr. S. J. Klein, President
EMPIRE BOX CORPORATION
70 Outwater Lane
Garfield, New Jersey

Dear Mr. Klein:

Anybody that can keep all of their customers happy during the days which we are going through at this

We want to congratulate you on the job which you have been doing* and hope that you can keep up the good work.

Yours very truly,
CHEF BOY-AR-DEE QUALITY FOODS, INC.
L. E. MALLOCK

LEM/k

CARTON-CUSTOMER CONGRATULATES EMPIRE FOR DOING A GOOD JOB

Number 15 of a series of "wartime" letters from old customers—many of them leaders in their field.

Old customers will continue to receive *exceptional* service, but—*now*—your needs as a prospective *new* customer can be given prompt consideration at Empire. Just write us about your package problem.

Empire BOX CORPORATION

OFFICES: NEW YORK • CHICAGO • PHILADELPHIA • BOSTON • GARFIELD, N. J.
PLANTS: GARFIELD, N. J. • SOUTH BEND, IND. • STROUDSBURG, PA.

LOOK TO THE FUTURE WITH EMPIRE

Packaging Forum

By Josephine von Miklos

It sounds very much like the old tale: "now you see it and now you don't." Again we are under much more severe restrictions and there seems to be no way of telling just when we'll get what. But somehow or other this time we feel perhaps less harassed: this is to be the big push and maybe it'll be the last. In the meantime we might put our thinking caps on and figure on some more ways to make our packages presentable without the use of better or newer materials.

Of course designers are disappointed when there is no chance, for the moment, to have a beautiful new bottle mould made. But we can take, in the meantime, stock bottles and have them silk-screened; we can use our imagination on labels and apply color to stock caps, even on jars. As a matter of fact, the latter seems to be quite in the trend of the moment. I know of several jobs where jar caps are being lithographed rather than using elaborate decoration on the walls of the jar. This, of course, makes sense; you do see the cap first when you have it on your dressing table, and all sorts of attractive designs can be evolved which will make even as humble an item as the cleansing cream jar, something much more in keeping with the pretty dresser sets now so very much in use in all sorts of homes. If we then use the label just for identification, for which it is, after all, supposed to be used, and apply some inagination to type and lay-out, we're bound to arrive at a first rate job, restrictions or no, metal or plastic or wooden or even pasteboard cap.

Talking about type and lay-out, every once in a while we realize with surprise that all of a sudden everybody seems to be using the same type faces for almost any kind of a job. Remember? A few years ago every ad, every booklet, every label was set in Futura. Then came the vogue for Stymie. Today we seem to find a great many of the Bodoni and Goudy types used alternately with all sorts of nice flowing scripts; some of them hand drawn, others type-set. As a matter of fact, personally I believe in the field of packaging it almost never pays to have handlettering. Not that a real lettering expert can't always put that certain individual touch to a name or a designation; but there are such beautiful type faces available, designed by really great type artists, that I always feel it is something of the guilding-the-lily procedure to attempt making up hand versions. By using the justly famous photo-flex process, we can have any size, any curve, any kind of distortion, and they'll be precision made. The reason so many hand-made type lines are used in advertising is, of course, the personality which can be achieved that way. But whether the general public really appreciates the difference, is, to my mind, a mute question. The only things that really matter are proper composition; a lot of clean, white space; some sort of harmony between the meaning of the message and its transposition into type. Which, of course, goes back to the time-old argument whether type is meant just to be read, or also to be part of an all-over design problem. I do believe it must be both; we have actually come a long way in using type on packages not only to convey a message but also to form an integral part of a design. But I think we can take this even more seriously and apply still more imagination, still more basic understanding of the endless possibilities which type evokes as a part of our fundamental conceptions of package designing.

Lipstick Containers

Some designers and some marketers of lipsticks have apparently felt that the size of the usual plastic lipstick case was an advantage. We are obliged to report that as a result of our own private investigation we find that the gals do not like these jumbo cases. They are apparently smart enough to realize that there is no more stick than there was in the metal case and claim that the larger case simply takes up too darn much room in an already crowded purse. Elementary, my dear Watson!

New Complexion

Chen Yu will introduce to the consumer on February 1, Cloud Silk make-up, advertised as "A totally new complexion for you—instantly . . . and wonderful protection for your skin!" Cloud Silk, according to Associated Distributors, Inc., takes its name from the fact that when a woman wears it, others see her as they would through a veil of cloud silk . . . complexion faults screened to obscurity . . . shadows banished . . . lines lost in the illusion of fresh young skin that this new make-up creates . . . for anyone! All this glamour stuff sounds wonderful, but on the face of it, Cloud Silk appears to be another cake make-up. We'll have to try it first to find out how it differs from all the others on the market before making any comment. The packaging at any rate is interesting and very "Chen Yu" in bright red and black.

Chen Yu also says that Cloud Silk was "developed from a special formula devised to protect the skin of workers in British war plants." Discussing cake make-up in our August issue we said that, "It is also a fact that the medical directors of British ordnance plants have standardized, after various experiments with other types of products, upon cake make-up as a safeguard against industrial dermatitis for women engaged in work in these plants. Many British plants, as a result, purchase large supplies of this make-up and furnish it to women workers without charge while in other cases it is simply recommended for use as a protective measure."

It was and is our impression that the British cake thus referred to was and is made by you know who.

Drug Store Closings

Further light is shed on the drug distribution picture by a Dun & Bradstreet survey of drug store closings conducted for the National Wholelsale Druggists' Association which showed that more than 25 per cent of all drug store closings was due to the drafting of proprietors into the armed services. Natural causes, such as illness, death or retirement accounted for another 25 per cent, and the remainder was credited to insufficient capital, lack of understanding of the principles of merchandising, and competition. The report notes that where competition was involved it was usually from independent, not chain, stores. The survey analyzed closings from December 1, 1942 to April 30, 1943.

Two New Members . .

of the

BRODER

Lipstick Family

No. 104
Super-Jumbo
All Plastic Swivel
with ½ inch CUP

No. 103
Standard-Jumbo
All Plastic Swivel
with Free Wheeling Feature
7/16 inch CUP

PHONE, WIRE OR WRITE FOR SAMPLES

HARRY BRODER

AND ASSOCIATES

5 EAST 47th STREET

NEW YORK 17, N. Y.

PLAZA 8-0520

"Gra-no-more"

Impression Products, Inc., Chicago, is introducing "Gra-no-more," which is, according to the descriptive booklet, "an amazing liquid preparation that banishes gray hair and imparts the natural youthful lustre to your hair without the use of dangerous dyes or slow working vitamins." A 16-oz. bottle containing what is described as a six-months' supply sells for $4. The publicity is illustrated with pictures of John Garton, vice-president and general manager, taken in 1937, when he had practically white hair, and in 1944, when his hair is "a soft lustrous chestnut brown." The package is shown nearby.

Clever Gadget

Curly Lox Products of Detroit, Mich., are distributing a novelty triple compact called the Trio-ette because it has a compartment for loose powder on one side, one for rouge on the other side, and the handle opens to reveal a lipstick. The compact comes in simulated tortoise, ivory, and carnelian. Without the cosmetics, it retails at cosmetic departments for $5, and a separate unit holding rouge, powder and two lipstick refills, may be purchased for $1. With rouge and lipstick in it, the compact sells for $5.50 in jewelry departments. The $1 unit holds a small box of face powder and an extra lipstick refill, so that actually, the value is the same. It has three mirrors, two inside and one outside. The front of the compact is highly decorative with a floral motif. It is quite bulky in effect, and a gadget if there ever was one, but apparently one with lots of appeal. For years, manufacturers like Coty, Bourjois, Hudnut, and others, have offered handsome, streamlined, attractive triple compacts which have been taken in their stride. Yet along comes a gadgety trio and creates much excitement. The tendency of both men and women toward gadgets is one of life's mysteries. Well, if that's the way it is, more power to the gadgets!

Window Displays

Now that prestige accounts are under fire, the whole subject of window displays may be opened up again. The whole thing is very confusing for whereas in one prestige account you may have to pay $5000 per window, another may only cost a modest fee to the display manager, while yet a third, of equal prestige, may give its windows away, feeling that only thus is it a free agent to control the who and the when and the what.

New Hormone Products

Helena Rubinstein presents Estrogenic Hormone Cream and Estrogenic Hormone Oil, both containing estrogenic hormones, the equivalent of a substance, rich in the young but which decreases with the years. To make it easy to use the Estrogenic Hormone Cream, Helena Rubinstein has provided with each package a spoon which measures the exact quantity recommended—thirty minims—no more, no less. Madame Rubinstein contends that little is not enough and too much is unnecessary. For those who prefer the luxury of an oil, the same estrogenic hormones have been incorporated into a blend of oils. Some women may prefer to use both—the cream on their faces and hands—the oil for their throats and necks. A 30-night supply of the cream is $3.50, and a 30-night supply of the hormone oil is $5 retail.

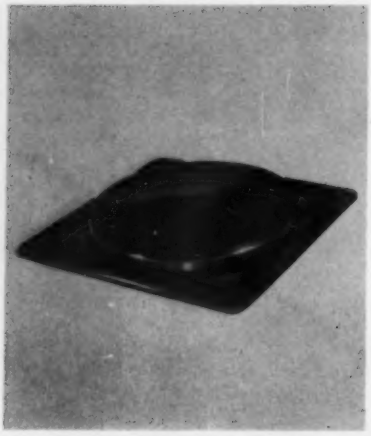
It might be noted that the Gourielli estrogenic cream, Estrolar, containing estrogenic hormones, was introduced as part of the Gourielli line in 1940.

Merrell Inhaler

A new Vonedrine inhaler, companion product to Solution Vonedrine with Ceepryn, is currently being presented to the medical profession by The Wm. S. Merrell Co. This new inhaler is a smart gray and white plastic tube, designed for convenient use and containing the volatile secondary amine, Vonedrine (brand of phenylpropylmethylamine), together with small amounts of aromatics.

The manufacturer reports that the Vonedrine Inhaler has been the subject of extensive pharmacological and clinical investigation, and that it may be used as frequently as necessary to maintain nasal patency, without tissue damage. Its freedom from toxicity and from nervous reactions are said to make it ideal for children.

The Vonedrine Inhaler is recommended for acute rhinitis (with or without complicating sinusitis); acute sinusitis; vasomotor or allergic rhinitis; and nasal congestion resulting from upper respiratory disease of any nature.



A new make-up, named Cloud Silk, attractively packaged in a bright red and black plastic case, will be introduced to the consumer on February first by Chen Yu, backed by a large advertising campaign.

It is six years since Rose Laird started pioneering with her Young Skin line of preparations, designed especially for teen age girls and boys, and which filled a gap overlooked by beauty experts for years.

Helena Rubinstein is offering hand care around the clock with the new Herbal Hand Cream, a formula for beautifying the hands while one sleeps, and Herbal Hand Lotion which gives daytime protection and beauty.

Something for Sweater Girls

It's a long time since a liquid deodorant has made news in these columns but Perspi-Cura, being distributed by Rose B. Caldwell, Chicago, does rate a note. Perspi-Cura claims to be 40 years old, and without a line of advertising ever being used in connection with it, it has survived and is flourishing at this time. Without any fanfare or fancy packaging, Perspi-Cura is doing well at—here it comes—$3 for a four ounce bottle retail. It lays claim to being an anti-perspirant as well as a deodorant. Nevertheless, Perspi-Cura must have something to sell at $3 a bottle.

Teen-Age Market

It is six years since Rose Laird started pioneering with her Young Skin line of preparations, designed especially for teen-agers. Miss Laird recognized the need for preparations made for the adolescent skin. Teen-agers in a desperate effort to improve their appearance do grasp at the bottles and jars on mother's beauty shelf, but after all, mother isn't as young as she used to be. Chances are she is fighting dry skin which results in lines and wrinkles and sagging chin, and the preparations she uses are aimed to aid and abet her purpose. No need to oil adolescent skins—in most cases that is the trouble with them, and that is Miss Laird's formula—no fats, no oils—for the young skin. Most of her preparations are liquid, liquid soap, liquid cleanser, acne lotion, and so on. Miss Laird has ardently carried her young skin message to teen-agers throughout the country. She lectures in schools, and says that the teen-agers are avid for news of how they might improve their complexions.

The amazing thing about all this is that in spite of the fact that the teen-age market is undoubtedly a fertile field, Rose Laird has met with little or no competition in her efforts.

Gift Sets

Take a good look at the Coty basket which appears somewhere nearby for that's what most of the gift sets are going to look like from now on for a while. Coty used this to feature muguet ensemble in 1943 but this year, due to the paper shortage and the limitation on paper for holding combinations of this kind, gay, ribbon-decked baskets of one form or another will be what the well-dressed line will wear.

Perspi-Cura, distributed by Rose B. Caldwell, Chicago, claims to be forty years old, and has survived and is flourishing at $3 for four ounces, without a line of advertising ever being used in connection with it.

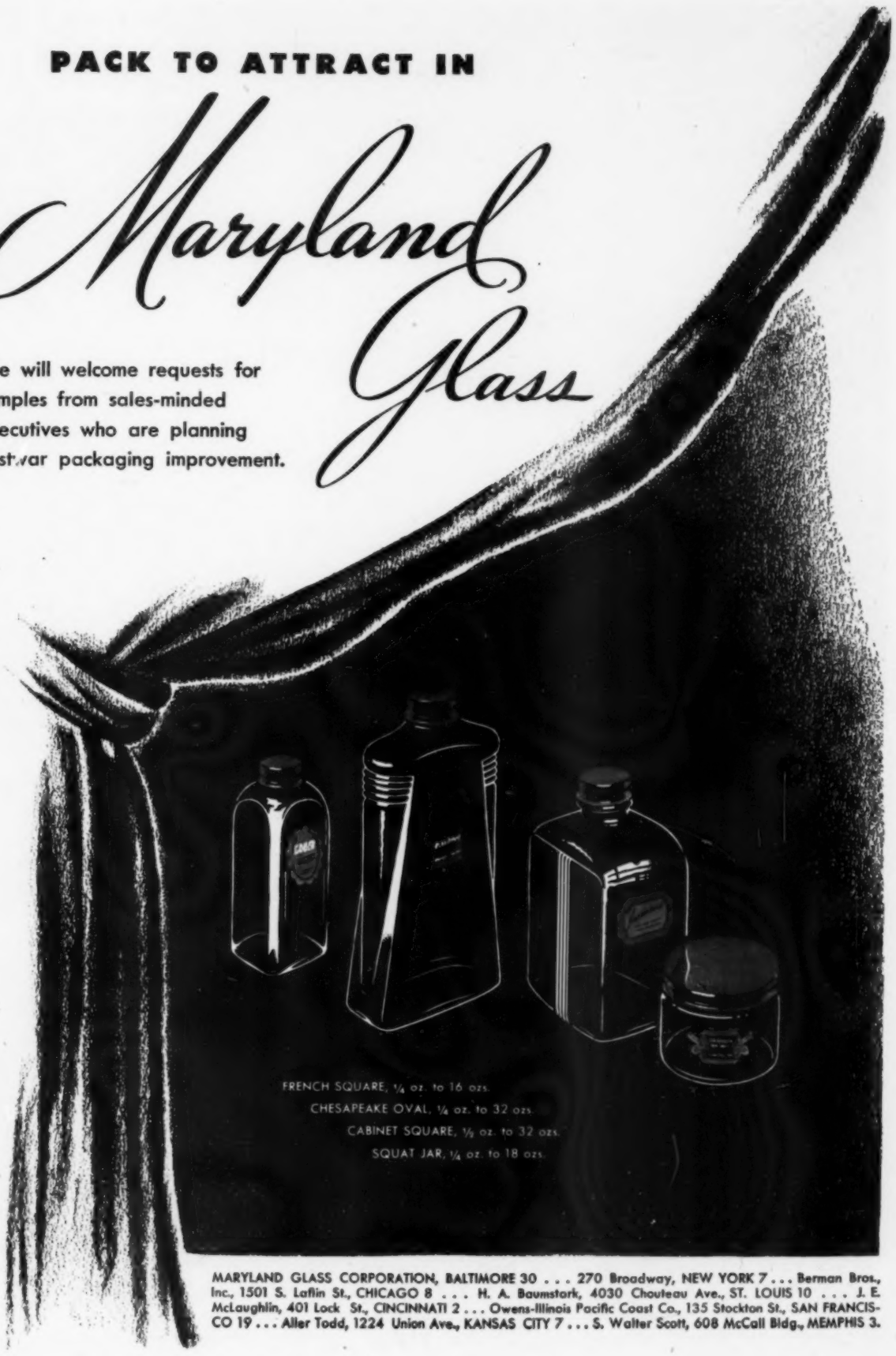
Primrose House has introduced Petal Tint, a tinted liquid cream foundation which comes in six shades, and falls into the category of the heavier liquid foundations to create a smooth surface for make-up.

Due to the paper shortage and the limitation on paper for holding combinations of toiletries, gay, ribbon-decked baskets similar to this one by Coty, will be what the well-dressed line will wear.

PACK TO ATTRACT IN

Maryland Glass

We will welcome requests for samples from sales-minded executives who are planning post-war packaging improvement.



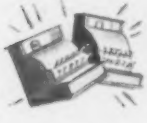
FRENCH SQUARE, ¼ oz. to 16 ozs.
CHESAPEAKE OVAL, ¼ oz. to 32 ozs.
CABINET SQUARE, ½ oz. to 32 ozs.
SQUAT JAR, ¼ oz. to 18 ozs.

MARYLAND GLASS CORPORATION, BALTIMORE 30 . . . 270 Broadway, NEW YORK 7 . . . Berman Bros., Inc., 1501 S. Laflin St., CHICAGO 8 . . . H. A. Baumstark, 4030 Chouteau Ave., ST. LOUIS 10 . . . J. E. McLaughlin, 401 Lock St., CINCINNATI 2 . . . Owens-Illinois Pacific Coast Co., 135 Stockton St., SAN FRANCISCO 19 . . . Aller Todd, 1224 Union Ave., KANSAS CITY 7 . . . S. Walter Scott, 608 McCall Bldg., MEMPHIS 3.

Bring your product into sharper focus at the point-of-sale WITH COATED LITHWITE CARTONS

More Eyes Stop! For *Coated* Lithwite cartons have a crispness—an eye-catching brilliance. The finer printing surface of this revolutionary paperboard is the reason. It's hard. It's smooth. It's chalk-free. Forms a perfect base for plates and inks. Reproduces product illustrations with a sharpness and realism that arrests attention.

More Hands Reach! Yes, *Coated* Lithwith gives a product greater package appeal. For this standout paperboard has a basic whiteness, a rich velvety look and feel that suggest high quality within the package.



More Cash Registers Ring! Shopping and impulse sales get an extra lift when *Coated* Lithwite cartons spotlight your brand, help it dominate on counter or shelf. *Coated* Lithwite is more than a paperboard—*it's an investment in good business!*

Five Straight Years of proving and improving give *Coated* Lithwite its margin of quality leadership. Made on one machine in one continuous, straight-line, high-speed operation, it delivers a substantial surplus of value for every carton dollar. Right now, production is all sold up but we'll be glad to work with you on plans for converting to *Coated* Lithwite so that you'll be ready to add this outstanding paperboard to your postwar sales force promptly.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard, MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

Where PROTECTION, EYE APPEAL and CONVENIENCE is wanted

Clearsite* *—takes the Lead*

EVERY GOOD PRODUCT DESERVES THE DISTINCTIVE ADVANTAGES OF Clearsite PACKAGING

It's LOGICAL that Vitamins, one of our most modern products, should be packaged in one of the most modern PACKAGES. That's why so many VI-SYNERAL Vitamins are packaged in Clearsite

Clearsite gives *extra* protection beyond the nature of ordinary containers. The Clearsite vials shown here are SHATTER-PROOF—they don't break when dropped; they stress the forethought of manufacturers who provide against accidental breakage, whether used at home or "on the road". In addition, they are colorful, with an eye-appeal which makes that important "first impression" favorable to the product.

Our Package-Engineering staff will gladly collaborate with you!

Clearsite

IS SEAMLESS
SHATTERPROOF
COLORFUL
FEATHERLITE
LABELED IN PROCESS OF MANUFACTURE

*Registered U. S. Pat. Off.

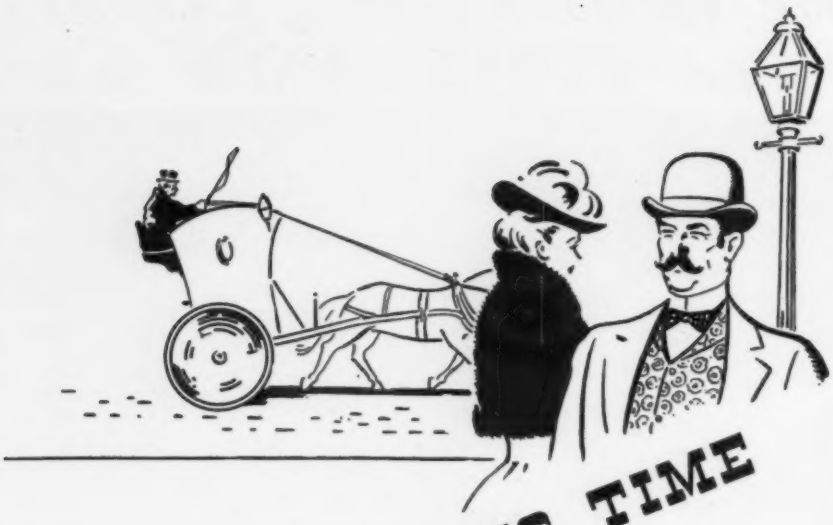
CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

WEST COAST REPRESENTATIVES CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.



IT'S BEEN A LONG TIME

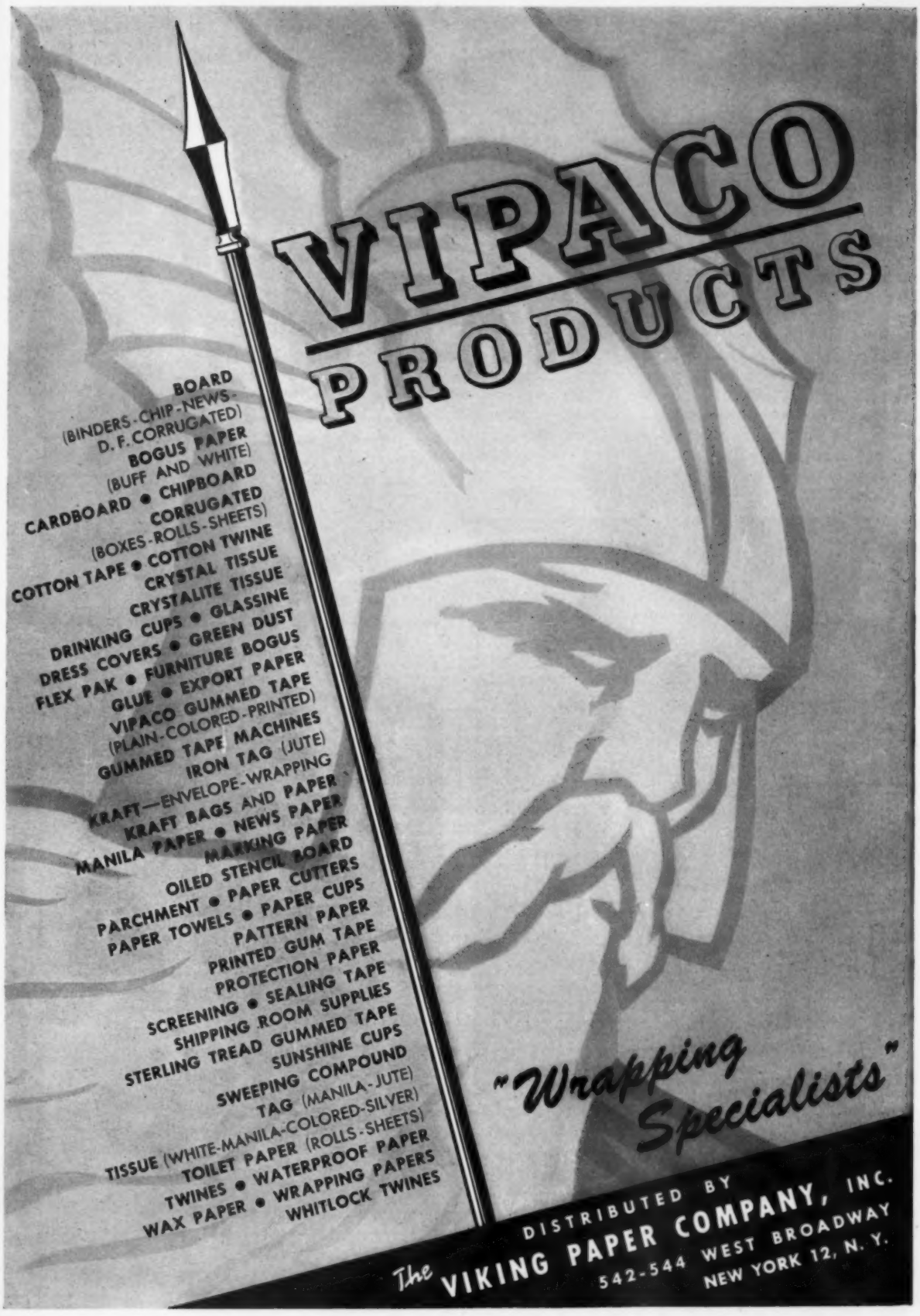
Much has happened in the world since we started making glass containers back in 1889. Wars have come and gone. Styles and uses of glassware have changed. There have been many advances in methods and manufacturing techniques.

Through it all, Carr-Lowrey operations have been characterized by a deep-seated pride in performance. Not how much but how well, has remained the watchword that guides the work of our organization.

Wartime activities have not dispelled this devotion to our original ideal. In the keenly competitive years ahead, you can count on Carr-Lowrey for glass containers that not only enhance the sales appeal of your product but are pleasingly trouble-free on your own production lines.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 Fifth Avenue • *Chicago Office:* 1502 Merchandise Mart


VIPACO
PRODUCTS
BOARD
(BINDERS-CHIP-NEWS-D.F. CORRUGATED)
BOGUS PAPER
(BUFF AND WHITE)
CARDBOARD • CHIPBOARD
CORRUGATED
(BOXES-ROLLS-SHEETS)
COTTON TAPE • COTTON TWINE
CRYSTAL TISSUE
CRYSTALITE TISSUE
DRINKING CUPS • GLASSINE
DRESS COVERS • GREEN DUST
FLEX PAK • FURNITURE BOGUS
GLUE • EXPORT PAPER
VIPACO GUMMED TAPE
(PLAIN-COLORED-PRINTED)
GUMMED TAPE MACHINES
IRON TAG (JUTE)
KRAFT—ENVELOPE-WRAPPING
KRAFT BAGS AND PAPER
MANILA PAPER • NEWS PAPER
MARKING PAPER
OILED STENCIL BOARD
PARCHMENT • PAPER CUTTERS
PAPER TOWELS • PAPER CUPS
PATTERN PAPER
PRINTED GUM TAPE
PROTECTION PAPER
SCREENING • SEALING TAPE
SHIPPING ROOM SUPPLIES
STERLING TREAD GUMMED TAPE
SUNSHINE CUPS
SWEEPING COMPOUND
TAG (MANILA-JUTE)
TISSUE (WHITE-MANILA-COLORED-SILVER)
TOILET PAPER (ROLLS-SHEETS)
TWINES • WATERPROOF PAPER
WAX PAPER • WRAPPING PAPERS
WHITLOCK TWINES
"Wrapping Specialists"
DISTRIBUTED BY
The VIKING PAPER COMPANY, INC.
542-544 WEST BROADWAY
NEW YORK 12, N. Y.

Plastics will be back again - SOME DAY SOON

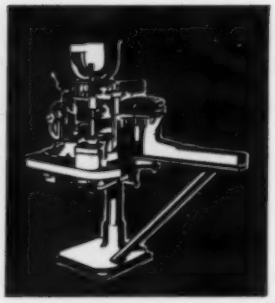
Soon, now, you'll again be able to hitch your sales plans to the time-proven sales appeal of Plastic Packaging. But not without planning today. For whether you're interested in custom-created containers involving special molds or specialties from our stock molds . . . in containers for cream rouge, dry rouge, mascara, face powder or lipstick . . . others are already planning design and contracting for production.

We're still concentrating on war work — but we've got one eye on the future. Why not talk over your post-war packaging plans now with the name that has stood for Plastic Packaging since we originated the screw-type Plastic Rouge Box? No obligation.

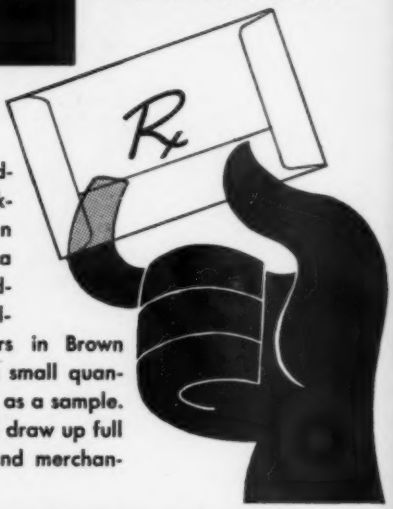
KURZ-KASCH

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton, Ohio
Branch Sales Offices: New York • Chicago • Detroit • Indianapolis
Los Angeles • Dallas • St. Louis • Toronto, Canada.
***Export Offices:* 89 Broad Street, New York City.**



PACKAGING PRESCRIPTION



Does your dry product flow freely? Package it by Brown Packeting. Many a drug and food product has reached millions of new users in Brown Packets. Send us a small quantity of your product as a sample. We'll packet it, and draw up full details of selling and merchandising procedures.

BROWN BAG FILLING MACHINE CO.
FITCHBURG, MASS.

West Coast Reps., Peter D. Bowley & Assoc., 369 Fifth St., San Francisco, Cal.

HORM ASBESTOS FILTER PADS

Available Now!

Clariflow*
AND
Sterilflo*
ASBESTOS FILTER PADS

Laboratory controlled production insures consistent filtration—Hydrogen Ion apparatus controls pH in manufacture.

Increased production facilities now make these high grade pads more readily available.

Reasonable deliveries.

Send at once for sample loading for your filter

Registered Trade Marks*

F. R. HORMANN & CO., Inc.
127 Boerum Place, Brooklyn 2, N. Y.

THIS BOTTLE A "GUINEA PIG"?

Yes! It helps forward research's relentless quest for better glass

EVERY DAY, inspectors at Armstrong's glass plants select bottles by controlled sampling methods from each production lot that comes rolling through the lehrs and send them to the laboratory. Here, these "guinea pigs" are investigated so carefully and accurately that analytical equipment made of platinum is necessary!

The chemist uses crucibles and evaporating dishes made of platinum, rather than ordinary equipment, to make sure that no reaction from the utensils themselves affects the results.

Such extreme care in these analyses is important for two reasons. A change in amount of any of the glass-making oxides present in the ware affords an accurate indication of its quality. And since only a minute variation in quantity can make a big difference in quality, the results must be exact.

But in addition to providing an important check on the quality of the finished ware, the analyses also help Armstrong's glass chemists, physicists, and engineers to improve the quality of future glass. They know, of course, the comparative amounts of each ingredient that went into the original batch. And the actual chemical make-up of the ware that comes out provides valuable data on the reaction of the ingredients in the glass-making process.

This type of close coordination between research and actual glass production, constantly in effect between Armstrong's glass factories and laboratories, is one of the big reasons why Armstrong's glass has been, and will continue to be, top quality.

For further interesting details on the making of fine glass, send for your free copy of Armstrong's illustrated booklet, "Men and Glass." Address Armstrong Cork Company, Glass and Closure Division, 3801 Prince Street, Lancaster, Pennsylvania.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**

LOOKING INTO THE FUTURE

When you think of bottles think of

Swindell

Machine made and hand made glass containers for cosmetics, drugs and beverages.

SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND

200 FIFTH AVENUE, NEW YORK ROBERTO ORTIZ—HAVANA, CUBA

Back Again...

TO STOP A WARTIME WORRY!

DODGE MILBOSSED-TOP CORKS

PACK UP your wartime closure troubles... because *Dodge Milbossed-Top Corks are again available.*

These smartly styled corks are the preferred closures for many types of packages. They provide a perfect seal... and they dress up your package for greater sales appeal. Designed in a variety of styles, sizes and colors, Dodge Milbossed-Top Corks can be even further individualized with your name, trade mark or special embossed pattern.

How Many Can You Get?

Supplies of hard wood are still limited. However, we are accepting quantity orders for 1945 delivery. Size of these orders must necessarily be based on available wood stocks.

Get in touch with us immediately to assure preference on delivery—for both your initial and your continuing requirements. Write or wire, giving closure specifications, *today.*

DODGE CORK COMPANY, INC., LANCASTER, PA.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE *BRIDGEPORT* METAL GOODS MFG. CO.

Established 1909

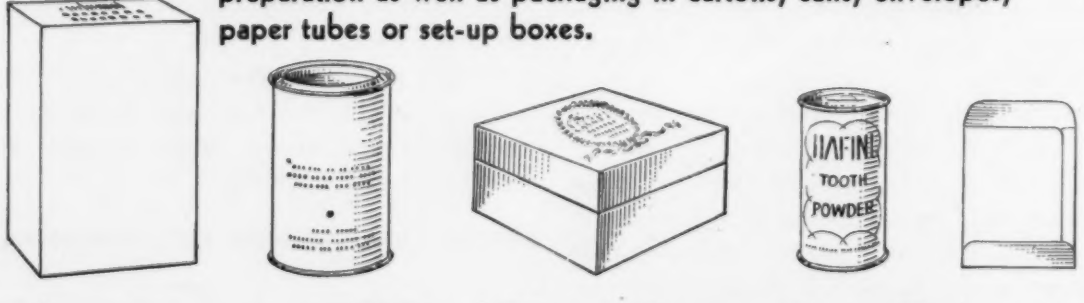
BRIDGEPORT 'PHONE: BRIDGEPORT 3-3125 CONNECTICUT

VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

Yes Sir!
We Can Package Them For You

Open capacity now available on High Speed Automatic Machinery for packaging dry powders - drugs - cosmetics - chemicals.

Our complete custom packaging service includes mixing and preparation as well as packaging in cartons, cans, envelopes, paper tubes or set-up boxes.



The Stevens-Wiley Manufacturing Co., Inc.

Hancock, Palethorp & W. Berks Streets, Philadelphia 22, Pa.

Phones—Regent 1616-1617

Distinguish a Brand by Its Cover
CAPS, CLOSURES, ROUGE BOXES, and other specialties for the cosmetic trade in Injection and Compression Molding or fabricated to your specifications.
THE FAMOUS FONTAINE LIPSTICK CONTAINER... A swivel-type thermoplastic container with fine features, specially designed for firm, smooth ejection.
SILK SCREEN AND GOLD LEAF PRINTING; also lacquer spraying on plastic, wood, glass, etc., in gold, silver and gay colors. Both flat and round surfaces can be decorated.
FONTAINE
PRODUCTS COMPANY
Art in Plastics
306 EAST 61st STREET • NEW YORK 21

NEW!
UNIQUE!
DISTINCTIVE!

SALES-STIMULATING!

We are happy to announce to the trade that we are prepared to distribute these two newly created, unusual, highly attractive Glass Stoppered Bottles, as shown here, *in one-half ounce and one ounce sizes!* For full particulars, prices, etc., WRITE US AT ONCE!

OTHER ITEMS WE CAN SUPPLY:

Plastic & Metal Closures for the Cosmetic Trade in a Variety of Designs and Colors

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Post-war packaging must do double duty for you. It must protect your product and it should display it to advantage.

LUSTEROID vials and tubes meet these essential requirements and give you other benefits, too.

- Crystal-clear walls for merchandising display.
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- All colors of the rainbow . . . clear or opaque.
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Find out today how LUSTEROID can help solve your post-war packaging problem.

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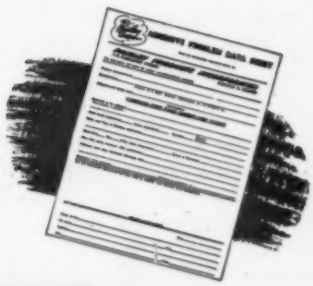
Paisley
SCIENTIFIC ADHESIVE SERVICE

KEEPS YOUR ADHESIVE OPERATIONS UNDER CONTROL

A specimen of every batch of Adhesives produced in modern Paisley Plants is withdrawn for laboratory tests. Identified by date and batch number, they enable us to maintain constant control of your adhesive formula. Periodic testing of these jars is standard practice with Paisley's Adhesive Chemical Engineers. Whether the batch sheet called for a gallon or a carload, the sample is time-checked religiously for storage life, retention of viscosity and body, machinability, emulsion stability, uniformity of color and cohesive spread . . as well as tested for adhesive qualities on the actual materials to be bonded. *Definite, high standards of quality must constantly be met!* You, too, can bring scientific control to your adhesive operations with all the benefits of perfect performance, low maintenance costs and freedom from suspended operations. If it's an adhesive problem—*"Put it up to Paisley"!*



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NEWS...

Marsters Heads DCAT

The Drug, Chemical and Allied Trades Section of the New York Board of Trade elected officers to serve during the next fiscal year on Wednesday, December 13. The election took place at the organization meeting of the new executive committee, at the Drug and Chemical Club. Officers elected are: chairman, Guy L. Marsters, vice-president of Norwich Pharmacal Co.; vice-chairman, Harold M. Altshul, president of Ketchum & Co.; treasurer, Robert B. Magnus, vice-president of Magnus, Mabee & Reynard, Inc.; acting secretary, Helen L. Booth, the New York Board of Trade, Inc. Carl M. Anderson, assistant to the president of Merck & Co., Inc., was re-appointed counsel.

GUY L. MARSTERS

The retiring chairman, E. T. T. Williams, chairman of the executive committee of Becton, Dickinson & Co., automatically becomes a member of the Section's Advisory Council which consists of the ex-chairmen for the past five years.

Lt. Alexander on Honor Roll

The center spread of "The Chemical Peddler" which was distributed to members of the Chemical Salesmen's Association at its Christmas party was devoted to the association's honor roll. One of the pictures shown there is of Lieutenant Paul W. Alexander who is on leave of absence from THE DRUG AND COSMETIC INDUSTRY.

Monsanto Advances Dr. Smith

Dr. Franklin D. Smith has been appointed assistant director of development for Monsanto Chemical Company's Organic Chemicals division, it has been announced by Osborne Bezanson, Monsanto vice-president.

Dr. Smith, a native of Burton, Ohio, received his Ph.D. from the University of Michigan in 1929 and entered Monsanto's service as a research chemist at St. Louis in 1930. He was made a member of the company's technical service department staff in 1932, and has been on the staff of the divisional development department since September, 1943, specializing in organic chemical problems.

Wilson Advanced by Continental

R. V. Wilson has been appointed director of customer service of Continental Can Company's research department, succeeding L. F. Pratt who has resigned to take a position with Hunt Brothers, Hayward, Calif. Mr. Wilson was formerly manager of general line customer service. He joined Continental in 1928. He is a graduate of Iowa State Teachers College and later was an instructor in chemistry at the University of Wisconsin, where he received his Ph.M. degree.

Honor DDT Discoverer

Geigy Company, Inc., New York dyestuff house, has received a cable from Switzerland announcing that Basle University has conferred the honorary degree of Doctor of Medicine upon Paul Laeuger, technical director of J. R. Geigy, the Swiss parent organization, which brought out the insecticidal properties of DDT. The Award was made for his work in Gesarol, Neocid and other DDT compositions.

Neocid is a composition which was used with great success combating typhus in Naples and is now being used against the malaria mosquito in the Pacific. Gesarol is a DDT composition used against agricultural pests.

F.W.D.A. to Meet in March

The Federal Wholesale Druggists Association will hold its fifth "Road Ahead Conference" at the Pennsylvania Hotel, New York, March 8 to 10.

Bertrand Joins WPB

Eugene F. Bertrand has been appointed chairman of the Packaging Committee of the War Production Board's Forest Products Bureau. Mr. Bertrand, a sales manager of the Owens-Illinois Glass Co., Toledo, is on loan to WPB and for the past six months has been assistant to the director of the Forest Products Bureau.

EUGENE F. BERTRAND

In his new capacity, as chairman of the Packaging Committee, he replaces Faustin J. Solon, who has resigned from the WPB to return to his duties as vice-president of the Owens-Illinois Glass Co. Mr. Solon went to Washington in April 1944 to head the newly formed packaging committee.

Broadbent Retires from Upjohn

William E. Broadbent, who for twenty-one years has served as office manager at the New York branch of the Upjohn Co., has asked to be relieved of his major duties and responsibilities. The company has acceded to his wishes since he has expressed willingness to remain as associate office manager and will be available to assist in an advisory capacity.

F. L. Tritle, Jr., who has been serving as sales manager at the Upjohn Minneapolis branch, succeeds Mr. Broadbent as office manager at New York. Mr. Tritle has been with the company for twenty-three years.

Fernen E. Fox, sales manager for government accounts, takes Mr. Tritle's place as sales manager in Minneapolis. Mr. Fox has been with the company for fourteen years.

ONE OF 96 DOW CHEMICALS USED BY THE PHARMACEUTICAL INDUSTRY

Answering

a sticky problem

in Adhesives

Solved by Methocel—a sticky problem in the leather industry! And the solution indicates the versatility of Methocel—its ability to aid industry in many ways and in many fields.

Tanneries have long sought some means of drying leather without any shrinkage, distortion or rupturing. Ordinary adhesives failed on this ticklish job.

Methocel did the trick. Now tanneries use it as an adhesive to fasten leathers to drying frames. It holds the leather flexibly, prevents damage, and permits easy removal. Tanners get more and softer leather.

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Brooks and Dorland Trade Board V. P.'s

Officers of the New York Board of Trade were chosen at a meeting held December 19. Herman L. Brooks, president of Coty, Inc., was elected vice-

H. L. BROOKS

president and Ralph E. Dorland, of the Dow Chemical Co. was re-elected a vice-president. J. J. Clark of Liggett Drug Co. was elected secretary.

Remington Medal to Dr. Kendig

Dr. H. Evert Kendig, dean of the School of Pharmacy of Temple University, Philadelphia, received the Remington Honor Medal at a dinner December 12 at the Hotel Pennsylvania, New York. The American Pharmaceutical Association made the award to Dr. Kendig in recognition of a long series of important contributions to the profession, most notable of which was his leadership of the campaign ending recently in the establishment by Congress of the Army Pharmacy Corps.

Dr. Kendig becomes the twenty-third recipient of the Remington award since it was established in 1919 by the New York Branch of the American Pharmaceutical Association in memory of Professor Joseph P. Remington, who had been chairman of the Revision committee of the United States Pharmacopoeia for two successive decades.

Dr. Kendig has been a member of the pharmacy faculty at Temple University for more than forty years. He is a former professor of pharmacology and toxicology at Woman's Medical College, Philadelphia, and from 1914 to 1922 was associate professor of pharmacology, school of medicine, at Temple.

He has served as president of the Philadelphia branch of the American Pharmaceutical Association and is now its representative to the House of Delegates.

Preyer Resigns from Vick

Allan T. Preyer has resigned as vice-president and director of Vick Chemical Co. to become chairman of the board of Morse International, Inc., advertising agency, effective January 1.

Winthrop Scientists in Cairo

Dr. Maurice L. Tainter, director of research, and Dr. Chester M. Suter, director of chemical research of Winthrop Chemical Co., Inc., Rensselaer, N. Y., and New York, have arrived in Cairo where they will assist in new research on tropical diseases on invitation of the Egyptian government. Their investigations which will take several months, will include studies on malaria, schistosomiasis, a liver infestation, and tracoma, an eye disease.

Dr. Tainter has been with Winthrop since May 1943, having previously been professor of pharmacology at Stanford University, and also professor of pharmacology and head of the division of physiological sciences at the College of Physicians and Surgeons, San Francisco. A native of Iowa, he first attended the University of Iowa, and obtained his A.B., A.M., and M.D. degrees from Stanford. Dr. Suter, prior to his association with Winthrop in October, 1942, was professor of organic chemistry at Northwestern University and chairman of its department of chemistry.

Kendall Joins Assoc. Distributors

Lewis J. Ruskin, president of Associated Distributors, Inc., has announced

DAVID M. KENDALL

the appointment of David M. Kendall as general manager. Mr. Kendall comes to Associated Distributors after ten years with E. R. Squibb and Sons; and Lentheric, Inc. Mr. Kendall will make his headquarters at the home office of Associated in Chicago.

Alexander Heads Chemical Salesmen

Charles L. Alexander, L. Sonneborn Sons, Inc., has been elected president of the Salesmen's Association of the American Chemical Industry. Other officers elected were: vice-president,

CHARLES L. ALEXANDER

James J. McInnes, Jr., Commercial Solvents Corp.; treasurer, James E. Ferris, Niagara Alkali Co.; secretary J. Robert Fisher, Fisher Chemical Co.

Members of the executive committee who will serve two years are: Stephen F. Urban, E. R. Squibb & Sons, and Alfred T. Loeffler, Monsanto Chemical Co.

T. G. A. Convention Dates Changed

The dates of the 1945 convention of the Toilet Goods Association have been pushed back one week. The convention will be held at the Waldorf-Astoria Hotel, New York, May 16, 17, and 18.

Fischelis Named A.Ph.A. Secretary

Dr. Robert P. Fischelis, director of the Division of Drugs, Chemicals and Health Supplies in WPB's Office of Civilian Requirements, was elected secretary and general manager of the American Pharmaceutical Association by the A.Ph.A. Council at its meeting in Washington on December 9. Dr. Fischelis took office January 1, succeeding the late Dr. E. F. Kally.

As a leader in the Association's professional program for more than thirty years, the new secretary has held many official posts. He was a member of the Council from 1923 to 1926 and has served successive terms since his re-election in 1933. After a year as vice-chairman of the Council, he was named chairman in 1941, a post he held until the present time. Dr. Fischelis was elected president of the A.Ph.A. in 1934, following a term as vice-president. He has been with the WPB in Washington since 1941.

Bonwit to Manage Mary Dunhill

Walter Bonwit has been appointed vice-president and general manager of Mary Dunhill, Inc., it has been announced by Arthur Mainzer, president. Mr. Bonwit is also treasurer of Alfred Dunhill of London, Inc., and was for many years associated with Bonwit Teller.

WALTER BONWIT

Wagner Resigns from S. & D.

J. S. Zinsser, president of Sharp & Dohme, has announced the resignation of Eugene F. Wagner as treasurer of the company. Mr. Wagner, who was secretary-treasurer and who has been with the company for thirty-six years, will continue as secretary. He will be succeeded as treasurer by Fred A. Platte, who will also continue as comptroller.

Harmon Color Gets "E"

Harmon Color Works, Inc., Haledon, N. J., an American Home Products Corp. subsidiary received the Army-Navy "E" Award November 27 for meeting a difficult de ivery schedule and maintaining high standards of quality in the production of quinacrine hydrochloride. Although more than 5,000 prime contractors and 7,000 subcontractors supply the Medical Department's needs only 87 "E's" have been awarded in this field.

Prior to Pearl Harbor Harmon Color Works supplied coal tar derivatives used in synthesizing organic pigments necessary in the manufacture of paints and finishes used by the automotive, farm machinery, printer's ink, plastic and rubber industries. In 1942 the company united with American Home Products Corp. and in a few months was producing quinacrine hydrochloride. By the end of 1943 Harmon was shipping enough of the essential drug to produce more than 50 million tablets a month.

Wiedman Named Dreyer V. P.

Henry A. Wiedman has been elected vice-president of P. R. Dreyer Inc., New York. Mr. Wiedman joined the company as sales manager in 1936 and has been secretary of the organization since July 1938. Previous to joining Dreyer he was with McKesson & Robbins in the purchasing department, E. Fougera & Co. as purchasing agent, Schering Corp. as manager of chemical sales, and Magnus, Mabee & Reynard, Inc.

James V. Demarest who has been with the company since January 1934 has been elected secretary of the company succeeding Mr. Wiedman. Before joining P. R. Dreyer Inc., Mr. Demarest was employed in the organic chemical and essential oil industries. He received his B.S. and M.S. degrees in chemistry from Rutgers University.

Remus Establishes Own Firm

Edward Remus has announced that he has resigned as president of Standard Synthetics, Inc., and that he has established his own firm, Edward Remus & Co., Inc., to continue to supply essential oils and aromatic chemicals. Arrangements are being made with sources of supply, both foreign and domestic and some shipments of Spanish and French oils are said to be en route. The new company has offices at 11 West 42 St., New York 18. The telephone is CHickering 4-4382.

Whitley Joins Sherwood Refining

George Whitley is now export manager of the Sherwood Refining Co., Warren, Pa., it has been announced by H. H. Sherwood, president.

Mr. Whitley has devoted practically his entire career to export management and has travelled extensively in foreign markets. For twenty years he was export manager of Standard Coated Products Corp. He will make his headquarters at the executive offices of Sherwood Refining Co., Englewood, N. J.

Apex Chemical Appointments

Peter J. Scott, graduate of the University of Lyons, France, has rejoined the technical staff of the Apex Chemical Co., Inc., Elizabeth, N. J. Mr. Scott has been on leave of absence in the Army.

Charles L. Coble, graduate of Philadelphia College of Pharmacy in Applied Science and a chemist with the company for the past twenty-five years has been appointed production manager by Stanford L. Hermann, operating vice-president.

The most recent addition to the company's research staff is Philip Levine who was formerly a research chemist at the Squibb Institute of Medical Research and at Mount Sinai Hospital under contract with the Office of Scientific Research and Development. Dr. Levine received his A.B. and Ph.D. from Harvard University.

R. R. Carlier, advertising manager, and Carle C. Conway, chairman of the board, Continental Can Co., Inc., with Bruce Barton, president of B. B. D. & O., and Paul W. White, CBS, signing the contract for Continental Can's sponsorship of "Report to the Nation."

make better sun-tan products for less!

SUNAROMES

. . FELTON'S EFFECTIVE SUN SCREEN PERFUMES

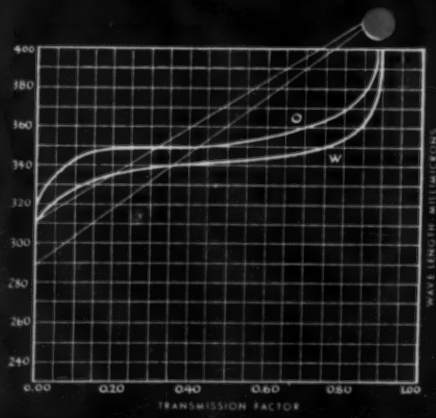
SUNAROMES "O" are oil soluble
SUNAROMES "W" are water soluble

Just consider the many advantages of a product that not only perfumes your sun-tan preparations most attractively, but which in itself is a very effective screen against the burning rays of the sun. Then you'll understand why Felton's Sunaromes have been widely used in the manufacturing of so many successful sun-tan products.

Sunaromes are supplied in a number of delightful fragrances . . . and it's easy to make fine sun-tan preparations with them.

Just mix Sunaromes with the base you prefer . . . water gum, water alcohol, or even water alone. You can also use a liquid cream base, mineral oil, fatty oil, and others. It's the Sunaromes that make them effective sun screens . . . and scent them so attractively. The protection is positive . . . and there is no problem of skin irritation.

SUNAROMES PROTECT AGAINST THESE SUN-BURNING RAYS!



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WRITE NOW for Samples and a leaflet containing complete data, prices and interesting formulas.

From an official U. S. Marine Corps photo

Measured purity..to help them live!

Blood plasma has been headline news for some time. It has saved the lives of thousands of men in the armed services.

Less spectacular and less publicized than blood plasma, is Human Serum Albumin. This life-saving serum, more concentrated than blood plasma, is considered superior in certain cases by many authorities.

This is but one of countless war-time medical products which come from the pharmaceutical houses of America.

Many of these products began with a fine chemical, or several fine chemicals, of exacting purity. And the purity of the fine chemical assured the quality and efficacy of the product.

For the manufacture of Human Serum Albumin Baker supplies a fine chemical of measured purity—measured to exacting standards.

For nearly 40 years Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing.

Today this measured purity helps our wounded boys in service live!

J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.
***Branch Offices:* New York, Philadelphia and Chicago.**

For Victory Buy United States War Savings Bonds and Stamps

Baker's fine chemicals

Linsert Joins Golden Peacock

Richard F. Linsert, account executive with Needham, Louis and Brorby, Inc., Chicago agency, has resigned to become advertising manager of the Golden Peacock Co., Inc., Paris, Tenn. Mr. Linsert had also been advertising manager of Red Star Yeast & Products Co., Milwaukee.

Wm. S. Merrell to Build

Thurston Merrell, president of the Wm. S. Merrell Co., has announced WPB approval for the construction of a new three-story laboratory and manufacturing building and of a warehouse, both buildings to be connected with the present plant in Cincinnati. Expansion of the Merrell business has made the new buildings necessary.

The Merrell scientific staff has been constantly increased to the point where it now numbers over 100 persons, necessitating added facilities, some of which will be installed in the new buildings.

One floor of the new three-story building will be used for the preparation of ampul medication for hypodermic use, previously made by a subsidiary company, Loeser Laboratory, Inc., New York, which has now been absorbed by Merrell and is known as Loeser Laboratory Division. All the Loeser facilities will be moved to Cincinnati upon completion of the new building.

Gelatin Appoints Bowerman in Canada

S. Ben Bowerman has been made sales manager of Gelatin Products Ltd., Windsor, Ont., it has been announced by M. Frank Brobst, managing director. Mr. Bowerman has been in the sales department for three years. For twelve years previous to that he was engaged in the automotive and general merchandising fields.

Breon Gives to Digitalis Fund

George A. Breon and Co., Kansas City, Mo., has made a contribution to the Digitalis Fund of Cornell University Medical College, New York. The fund is administered under the direction of Dr. McKeen Cattell and Dr. Harry Gold of the Department of Pharmacology.

Fritzsche Extends Employee Benefits

F. H. Leonhardt, president of Fritzsche Brothers, Inc., has announced to the company's employees that the original plan of group life insurance established in 1921, has been augmented. It now includes disability benefits covering sickness, accidents and death, surgical expense and hospitalization, and a plan for old age retirement with pension and death benefit features for surviving beneficiaries.

Carl N. Angst, president of Pitman-Moore, Sgt. Richard Thalhamer, employee now in service, and Dr. E. A. Cahill, president of Allied Laboratories, Inc., at a dinner honoring Mr. Angst for forty years of service.

Major Prentiss Relieved of Duty

Major Richard J. Prentiss has returned to R. J. Prentiss & Co. of which he is president. Major Prentiss has been on leave of absence since November 1942 when he was commissioned a captain in the Sanitary Division of the Medical Corps. He was advanced to the rank of major early in 1944.

Mrs. Russe Sees Children

Mrs. Frederick W. Russe, Jr. after spending most of the last three months in an iron lung, was able to spend Christmas with her two children, Susan, four, and Frederick William Russe 3d, four months, who are living with their grandparents, Dr. and Mrs. Frederick W. Russe of St. Louis.

Mrs. Russe's husband is a lieutenant commander stationed in Washington. She made the trip to St. Louis in the iron lung in order to spend Christmas with her children and their grandparents. Dr. Frederick W. Russe, is with Mallinckrodt Chemical Works.

Carl Angst's 40th Year

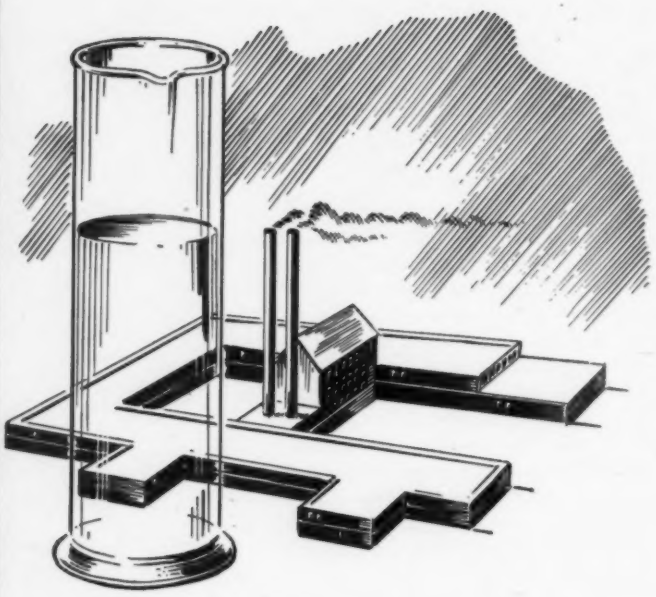
Carl N. Angst, president of the Pitman-Moore Company Division of Allied Laboratories, at Indianapolis was guest of honor at a dinner attended by more than three hundred employees on November 30. The occasion was the fortieth anniversary of Mr. Angst's association with the company.

F. V. Hawkins, secretary, acted as toastmaster and Dr. E. A. Cahill of Kansas City, president of Allied Laboratories, presented Mr. Angst with a wrist watch from the Pitman-Moore employees and an illuminated scroll from the directors of Allied Laboratories.

During his forty years with the company Mr. Angst has served as bookkeeper, credit manager, treasurer, secretary-treasurer, vice-president and, since 1935, as president. He has been a director of Allied Laboratories, Inc., since its organization in 1929, and has been its treasurer since 1936. He is a past president of the American Pharmaceutical Manufacturers' Association and is active both in that organization and in the American Drug Manufacturers' Association.

An honored guest at the dinner was Sergeant Richard Thalhamer, an employee now in service, who had been reported missing for more than six months after bailing out of a bomber over occupied France.

POOR WATER *becomes* PURE WATER



. . . with the DORRCO D-I system

Now you can obtain chemically pure water to exacting specifications—and at a far lower cost than distilled water. The elimination of costly distilling processes is made possible by the DORRCO D-I System,—a water treatment based on the efficient application of the proved principle of de-ionization.

The DORRCO D-I System is applicable to manufacturers requiring only a few gallons of water per hour or to large plants with capacities of millions of gallons per day. It offers the following advantages:—

Low Operating Cost — **Flexible Operation**
Large Savings Of Chemicals — **No Silica Pick Up**
Complete DORR Engineering Service

DORR Engineers have had years of experience in water treatment as well as in chemical, mining and other industrial processing fields. They have been conducting research on resinous ion-exchangers since these were first introduced into the United States. The DORR Company is prepared to furnish *a complete service* for ion exchange treatment from raw water feed to treated water effluent.

Investigate DORR facilities for creating a D-I System of water treatment to meet your conditions efficiently and economically. DORR Service can extend from an analysis in the field or laboratory to the supervision of building and equipping your plant and its initial operation.

We shall be glad to supply further information—just phone, write or wire our nearest *office.*

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Merck Indicted in "Doryl" Death

Merck & Co., Rahway, N. J. has been charged with mislabeling of the drug "Doryl" in indictments handed down by a federal grand jury at Trenton, N. J. The indictment charged that the labeling used by Merck for the crystalline form of "Doryl" was insufficient to guard against improper use which might result in death.

"Doryl" is the company's trade name for carbamylcholine chloride, which is put up in three forms—solution, crystalline substances, and tablets. It is used by physicians, and in hospitals in post-operative cases, and also in glaucoma treatment.

The Department of Justice said that the liquid, a relatively weak solution, is for subcutaneous injection for the relief of certain post-operative conditions, and that the crystalline form is for external applications only in treatment of the eye. Crystalline Doryl is about 600 times stronger than the liquid, it is claimed, and is lethal if administered as an injection.

The Trenton indictment says that the phrase "Do not use intravenously," printed on the labels of "Doryl" crystals, was insufficient to indicate "the drug was lethal by any method." It was also said that the labeling "failed to bear adequate warnings against unsafe dosages and methods of administration" and that the ampule was "so made and formed and filled as to be misleading," because it was "in a form in which drugs intended for injection" are customarily packed.

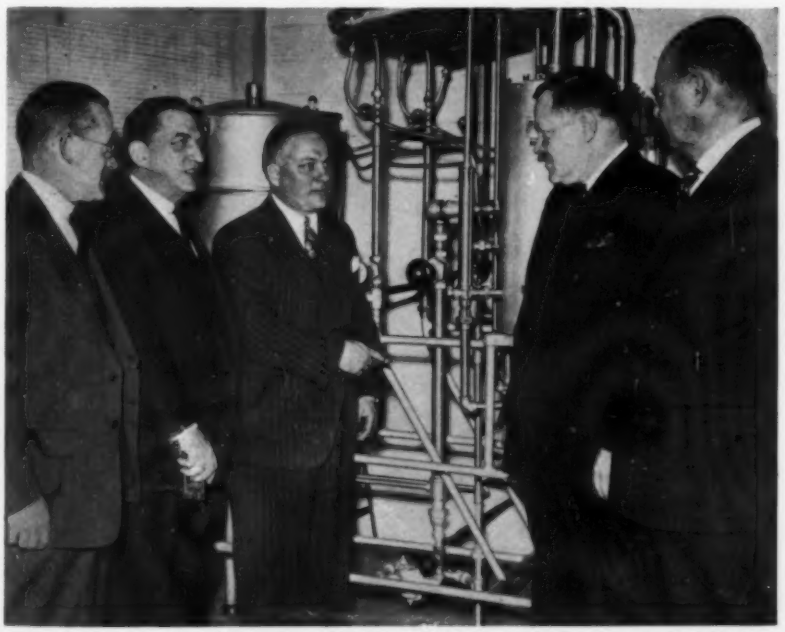
The department said that the indictment was returned in fifteen counts, one for each alleged separate shipment of Doryl crystals in interstate commerce and the maximum penalty is a fine of $1,000 on each count.

Merck & Co. has denied the government's charge of insufficient labeling, pointing out that the charge was technical in nature and did not allege any intentional violation of the law. Improper use of the drug was wholly accidental and not due to misbranding. Through errors in use, which the company holds was not due to insufficient labeling the crystalline form was improperly administered.

Dr. Verley in Contempt of Court

Dr. Albert Verley, internationally known chemist, was found guilty of contempt of court November 13 by Judge John P. Barnes in Federal Court. Dr. Verley was accused of violating an order enjoining him from using his name in connection with the manufacture of perfume and cosmetics.

The injunction was issued with Dr. Verley's consent February 12, 1943, after Albert Verley & Co., Chicago, had paid him $37,000 to relinquish all rights to his name in the perfume and cosmetics business.



Officials from the New York office of Sterling Drug Inc. inspecting the plant of Sterling Products Ltd., Windsor, Ont. From left to right, Harold B. Thomas, vice-president; E. I. McClintock, vice-president and director; Henry L. Shade, president of Sterling Products Ltd.; James Hill, Jr., president, and O. W. Ergenzinger, vice-president.

Jugeat Appointed General Manager

Lucien Lelong announces the appointment of Jacques Jugeat as general manager of its New York office. Prior to 1939 he was president of Parfums Lucien Lelong, Paris, and since then has been affiliated with Lucien Lelong, Inc., establishing export relationships in the West Indies, Central and South America During the past four years he has been permanently located in the United States.

Fifty Years of Givaudan

Commemorating a half century since the formation of the Givaudan organization in Geneva, Switzerland, and twenty years since the establishment of Givaudan-Delawanna, Inc., in this country, the company has issued an attractive illustrated booklet, entitled "You and Your Job," for distribution to its employees.

There is a simple explanation of the Givaudan corporate set-up, a brief history of the company, a description of its scientific and production achievements, a note on the uses to which Givaudan products are put, and a statement on the company and the war. In addition, the major part of the booklet deals with problems of conditions of employment, including such topics as wages and deductions, vacations and holidays, physical examinations, life insurance and hospitalization.

Sterling Products, Ltd. Post-War Plans

A post-war expansion program, providing among other things a new building including additional laboratory space, was announced by Sterling Products Ltd., at a Silver Jubilee dinner held at the Prince Edward Hotel, Windsor, Ont., the Canadian company's headquarters city.

The celebration marked not only the twenty-fifth anniversary of the company but also the twenty-fifth year of service of Henry L. Schade, president. More than 400 employees and friends attended, including a delegation of Sterling Drug Inc. officials from New York, headed by Edward S. Rogers, chairman of the board, and James Hill, Jr., president.

As soon as possible after the war, the company will construct an addition totalling 50,000 square feet adjoining its present three-story modern plant. A new analytical laboratory recently completed will be supplemented by other laboratories.

Dr. Heyl Resigns from Upjohn

Frederick W. Heyl, vice-president, director of research, and member of the board of directors of the Upjohn Co., Kalamazoo, Mich., resigned his post December 1. Dr. Heyl asked to be relieved of the responsibilities and details

F. W. HEYL

involved in directing the activities of his department to have more time to spend at his winter home in Florida, and also to carry out organic chemical re-

M. C. HART

search along lines in which he has a strong personal interest.

Dr. Heyl joined the Upjohn Co. in August 1913 as chief chemist. He is a graduate of Yale University, and at the time he was employed by Upjohn was head of the department of chemistry at the University of Wyoming. In 1925 he was elected a member of the board and in 1936 he became a vice-president of the company.

Merrill C. Hart, M.S., Sc.D., will succeed Dr. Heyl as member of the board of directors and vice-president and director of research. Dr. Hart has for thirty years served as assistant to Dr. Heyl. He went to Upjohn after doing post graduate work at Professor Nef's laboratory for organic chemistry at the University of Chicago.

Lt. Com. Cahill Returns to Orbis

Lieutenant Commander Robert L. Cahill, U. S. N. R., after a tour of active duty with the Navy since 1942, has resumed his post as vice-president of Orbis Products Corp., New York.

Fritzsche Brothers Changes

Following the death in October of George L. Ringel, a director and vice-president of Fritzsche Brothers, Inc., the executive personnel of the company has been realigned.

John H. Montgomery, secretary and a director, has been elected second vice-president, retaining also his former office. Hans P. Wesemann, third vice-president, has been made a director and Joseph A. Huisking, fifth vice-president, has been elected treasurer and managing director of the company's affiliate, Fritzsche Brothers of Canada, Ltd., with offices and plant in Toronto.

A new position has been created, that of chief chemist, and Dr. Ernest Guenther, fourth vice-president, has been appointed to that post.

The present officers of the company are as follows: F. H. Leonhardt, president, Wm. A. R. Welcke, 1st vice-president and treasurer; John H. Montgomery, 2nd vice-president and secretary; Hans P. Wesemann, 3rd vice-president; Dr. Ernest Guenther, 4th vice-president; Joseph A. Huisking, 5th vice-president; and R. R. Redanz, assistant treasurer. The first four officers, with Dr. A. Nicolaus, managing director of the Clifton, N. J., factory, constitute the board of directors.

Norton—Lambert Exec. V. P.

John S. Norton has been appointed executive vice-president of the Lambert Pharmacal Co. He succeeds R. L. Lund who retired July 1. Mr. Norton has been vice-president in charge of sales since 1932. He will continue as a director of the company as will Mr. Lund.

Richards Honored on 50 Years

M. H. Richards, premium buyer who has been in the continuous employ of Colgate-Palmolive-Peet Co., Jersey City, N. J. for the past fifty years, was honored at a special luncheon given by E. H. Little, president of the company. A gold watch was presented to him. Mr. Richards joined the Kirkman soap company as typist in 1894. Shortly thereafter he was assigned to the premium department. For a time he sold bulk soaps for Kirkman and was then named head of the premium department. He was transferred to his present position in 1931 when the Kirkman and Colgate-Palmolive-Peet companies merged.

Givaudan Sales Meeting

Branch managers and salesmen of Givaudan-Delawanna, Inc., from the branches and sales offices throughout the country gathered at the company's New York offices for the annual sales meeting December 11, 12 and 13. The meeting was under the direction of R. N. Stevenson, sales manager. A visit to the factory at Delawanna, N. J., and a dinner at Essex House were on the program.

Givaudan executives at the company's annual banquet: Francis N. Bangs, corporation counsel; Dudley F. Lum, Chicago district manager; Harold F. Duffy, controller; Dr. Eric C. Kunz, president; Ralph M. Stevenson, sales manager; Dr. Max Luthy, plant manager; and George Warren, assistant sales manager.

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U.S.I. CHEMICAL NEWS

January ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Two New Resins Round Out U.S.I. Replacement Line

Complement Existing Resins in Solving the Shortage of Alkyds

While no relief is yet in sight for the currently tight situation on both natural and synthetic resins, there are some bright spots for manufacturers of civilian coatings. Not the least of these is U.S.I.'s non-critical S&W Aroplaz 1306, introduced some months ago and now complemented by S&W Aroplaz 1305 and 1309. These newer resins are designed specifically for those who want the harder, less flexible films produced by resins of lower oil content and who prefer not to blend with cold-cut solutions.

Gloss and Color Retention

S&W Aroplaz 1306 and the newer companion resins can now be used as alkyd resin replacements with a minimum sacrifice in most characteristics. Initial color is very pale and color retention is good. Gloss and gloss retention are outstanding. Drying, although not equivalent to an alkyd, is satisfactory for most jobs.

Versatility of Aroplaz 1306

Since all three of the new resins are soluble in all petroleum and coal-tar hydrocarbons,

(*Continued on next page*)

Wide Range of Products Made from Sub-standard Oranges

The production of new products from oranges, below fresh-fruit standards, has grown to the point where one orange products plant in California has had to expand its facilities to care for double the tonnage of oranges. Among the plant's products are oil-well drilling compounds, synthetic rubber anti-stick agents, and vitamin concentrates, most of which are produced from residues formerly discarded as waste.

Part of the pulp is processed to extract the pectin. In this process, pulp is treated with hydrochloric acid, and pressed. The liquid obtained is passed through a filter press, and the filtrate concentrated and treated with ethanol to yield a jelly-like precipitate. After separation of the alcohol in a drain tank, the mass of precipitate is broken up. The pieces of pectin are hardened, ground, dried, and bagged for shipment. Pulp residue is sold for feed.

Production of old-line by-products of oranges is not decreased by this further processing.

Three pounds of washed precipitated pectin (left) are required to yield a few ounces of dry, powdered pectin (right). Photo from The Exchange Orange Products Co., Ontario, Cal.

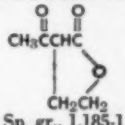
Interesting Future Predicted for Four New Organic Chemicals

Novel U.S.I. Intermediates Promise Valuable Short Cuts in the Synthesis of Drugs, Medicinals and Specialties

Taking their places well up on the list of war-born organic intermediates which are both paving the way to new products, and shortening the synthetic route to old ones, are the four new chemicals whose structural formulas are shown below. These new intermediates are methyl cyclopropyl ketone, alpha acetyl butyro lactone, acetyl propyl chloride, and 5-diethylamino pentanone-2. Products of U.S.I. pioneering in the application of the Claisen-type condensation, two of these new intermediates are already being used in substantial quantities. The synthesis of vitamin B_1 makes use of alpha acetyl butyro lactone, while 5-diethylamino pentanone-2 is an intermediate in the manufacture of atebrin.

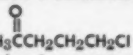
Below are the physical constants of each of these new chemicals. Samples are available on request.

α-ACETYL BUTYRO LACTONE



Mol. wt., 128. Sp. gr., 1.185-1.189 @ 20/20° C. Refractive Index, 1.460 @ 20° C. Boiling point, 121-122° C. @ 10 mm. Hg. abs. Colorless liquid. Suggested Uses: Organic synthesis.

ACETYL PROPYL CHLORIDE (5-Chloro Pentanone-2)



(*Continued on next page*)

A. E. Tongue to Direct U.S.I. Anti-Freeze Sales

Arthur E. Tongue

Arthur E. Tongue has been appointed Manager of Anti-Freeze Sales for U. S. Industrial Chemicals, Inc. He will be in charge of the sale of U.S.I.'s Super-Pyro Anti-Freeze, as well as its other automotive products.

Mr. Tongue comes to U.S.I. from the Chrysler Corporation, where, for the past eight years, he was in charge of Advertising and Sales Promotion for the Chrysler line of cars.

Butanol Reported To Boost Penicillin Yield

While penicillin can be extracted by ether, amyl acetate or chloroform, provided the aqueous solutions are sufficiently acid, penicillin is rapidly destroyed in a highly acid environment. Needed, then, is an extraction solvent which will function in less highly acidified solutions.

Research, recently reported by an English scientist, has shown that penicillin is most stable at a pH of 6.4; it has been discovered that normal butyl alcohol will efficiently extract the penicillin from such a medium.

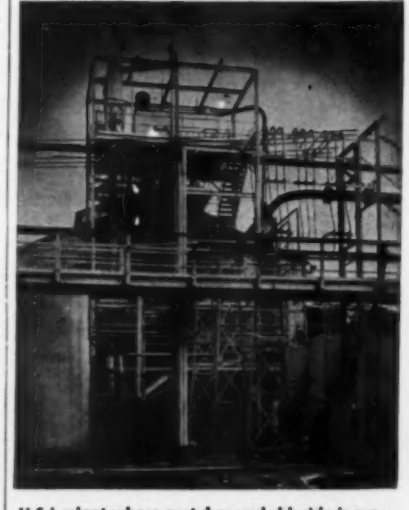
Although these findings are based upon small-scale tests, the improvement in efficiency of the new method is described as "enormous."

Surface Hydrolysis Makes Plastics Solvent Resistant

Cellulose ester plastics exhibit a tendency to swell, distort, and become tacky, when brought into contact with certain solvent plasticizers, and solvents such as acetone.

It has been discovered that after surface hydrolysis of the plastic, the surface thus converted back toward cellulose is highly resistant to the action of such solvents. Surface hydrolysis is obtained by dipping the plastic in a solution of sodium hydroxide and a softening agent, such as alcohol.

Plastics so treated will withstand cleansing operations impracticable for untreated plastics and the physical qualities of the plastic, are apparently unaffected by the treatment.



U.S.I. plant where acetyl propyl chloride is manufactured from α-acetyl butyro lactone. The acetyl propyl chloride is then reacted, via a Claisen condensation, with diethyl amine to give 5-diethylamino pentanone-2. The refining still and column can be seen in the foreground.

ADVERTISEMENT—*This entire page is a paid advertisement.*

January ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Improvements Made in U.S.I.'s Curbay B-G

With its riboflavin potency improved to 150 micrograms per gram, new, improved Curbay B-G assumes an even more important place among poultry and livestock feed supplements.

In addition to its increased riboflavin content, Curbay B-G contains generous amounts of other B-complex factors: pantothenic acid, niacin, pyridoxine, biotin, as well as folic acid. Curbay B-G is a very economical source of these factors.

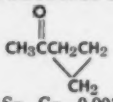
A new manufacturing process has also greatly reduced the product's tendency to dust.

New Organic Chemicals

(*Continued from preceding page*)

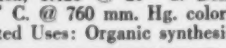
Mol. wt., 120.5 Sp. gr. 1.054 @ 20/20° C. Refractive Index, 1.440 @ 20° C. Boiling point, 71-72° C. @ 20 mm. Hg. abs. Colorless liquid. Turns dark on storage in presence of air. Suggested Uses: Organic synthesis.

METHYL CYCLOPROPYL KETONE



Mol. wt., 84. Sp. Gr., 0.903 @ 20/20° C. Refractive Index, 1.426 @ 20° C. Boiling point, 111-113° C. @ 760 mm. Hg. colorless liquid. Suggested Uses: Organic synthesis.

5-DIETHYLAMINO PENTANONE-2
(Noval Ketone)



Mol. Wt., 157. Sp. Gr., 0.865 @ 20/20° C. Refractive Index 1.435 @ 20° C. Boiling Pt., 90-92° C. @ 20 mm. Hg. abs. Colorless liquid. Turns dark on storage in contact with air. Suggested Uses: Organic chemical synthesis.

Claims Color-Fast Sizing For Paper and Textiles

In the past, resin emulsions used for sizing paper, fabrics, leather and other flexible materials have been subject to two serious defects, according to a recently granted patent. Such emulsions are claimed to yellow with age, and under certain conditions to become relatively inflexible.

According to the inventors, emulsions of hydrogenated ester gums are free from both of these adverse factors, being compatible with most plasticizers and overcoming the tendency to yellow with age.

The hydrogenated ester gums used in these emulsions are prepared by hydrogenating rosin and then reacting it with ethanol, diethylene glycol or other aliphatic alcohol. Another method of preparation first reacts the rosin with the alcohol to form ordinary ester gum, then hydrogenates the ester gum.

Two New Resins

(*Continued from preceding page*)

finishes prepared with them are easily adjusted for brush, spray, dip or other application method. Set time of films may be controlled by the selection of solvents from among a wide range. Acid value has been lowered so that these resins may be used with any pigment except a highly reactive one.

Because of their oil content, these resins are particularly suitable for use as general-purpose vehicles in architectural finishes, enamels for interior use, and exterior applications where maximum durability is not a factor, and in metal-finishing enamels. However, they may be modified to yield other characteristics. Enamels of high durability for exterior finishing may be produced by the addition of bodied oils, while addition of Ester Gum or other hard resins, cold-cut, produces extremely hard films for use as furniture or floor varnishes and toy and hardware enamels.

RESIN SPECIFICATIONS

AROPLAZ	1306 65% SOLIDS in MS	1306 75% SOLIDS in MS	1309 75% SOLIDS in MS	1305 85% SOLIDS in MS
Acid Value (Plastic)	10-15	10-15	10-15	10-20
Color (GH 1933)	7-9	7-9	8-10	8-10
Viscosity (GH)	T-V	Y-Z_3	W-Y	Z_1-Z_2
Weight/Gal. @ 25C	7.6 lbs.	7.8 lbs.	8.0 lbs.	8.2 lbs.
Reportable Oil Content (Prox.) on plastic resin	65%	65%	60%	44%

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A new synthetic detergent of the substituted sodium alkyl sulfonate type has been announced. The product contains 35% organic material and will be of interest to those requiring high water solubility with good detergent, emulsifying and wetting properties. **(No. 888)**

U S I

Simulated hammered finishes, claimed to produce hammered silver, copper and bronze effects on most metals or phenol-formaldehyde molded plastics, are back on the market for industrial application. **(No. 889)**

U S I

Bonding plastics to a wide range of materials is the announced purpose of a new adhesive line. Among the materials mentioned are glass, metals, rubber, fabrics, wire, lead and tin foil, and cellulose. **(No. 890)**

U S I

To fill drums in a horizontal position is the purpose of a new funnel offered to save time and labor in this otherwise troublesome job. The new filler clamps to the drum chine; can't tip or spill. **(No. 891)**

U S I

Metallic, high-temperature packing designed for aircraft, is now available for general industrial use. According to the manufacturer, this woven metal tape will give service at 2,000 deg. F., is corrosion-resistant and non-magnetic. **(No. 892)**

U S I

An edible emulsifying agent, claimed to be non-toxic, practically odorless, dispersible in hot water, and completely soluble in alcohols and hydrocarbons, is announced. Product is thought to be of special interest to the food, pharmaceuticals, and cosmetic industries. **(No. 893)**

U S I

To color metals and alloys of almost any type, with almost any color, and in iridescent and matte effects, a new line of coloring salts and solutions is offered. Among the features claimed are increased corrosion resistance. **(No. 894)**

U S I

Protection against skin irritation is promised by the manufacturer of another new cream, who describes it as providing the skin with a water-removable armor against industrial irritants. **(No. 895)**

U S I

Marking ink in powder form, packed in containers which hold enough to make one quart, is claimed to wash out of fabrics on which it may be spilled. In blue, purple, green and red. **(No. 896)**

U S I

Instant anti-skid protection is described as one of the qualities of a pair of new dry-cleaners for floors. Both are said to reduce accidents and fire-hazard. **(No. 897)**

U S I

To protect uncured rubber and oils from the deleterious action of sunlight, a new alkylated polyhydroxy phenol is on the market. **(No. 898)**

U S I

Tough paperboard drums, claimed to have held up under drop tests more severe than ICC tests, are offered for packing liquids. **(No. 899)**

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK 17, N. Y. — BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS
Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined

Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent

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Ansol M
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ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

FEED CONCENTRATES
*Curbay B-G
*Curbay Special Liquid
*Vacatone 40

ACETONE
Chemically Pure

RESINS
S&W Ester Gums—all types
S&W Congo Gums—raw, fused & esterified
S&W *Aroplaz—alkyds and allied materials
S&W *Arotene—pure phenolics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades

OTHER PRODUCTS
Colladions
Ethylene Glycol
Nitrocellulose Solutions
Ethylene
*Indatone
Urethan

J

McK. & R. Changes

Changes in executive personnel of the South Atlantic District of McKesson & Robbins, Inc., as a result of McKesson's acquisition of the Brannon & Carson Co. at Columbus, Ga., have been announced by George Van Gorder, first vice-president of the national wholesale drug firm.

H. E. Weathers, who has been president of Brannon & Carson for thirty years, will continue in an advisory capacity, with operation of the new division in charge of J. F. Kerr who has been appointed manager. Mr. Kerr was formerly credit manager of McKesson's Riley Division at Macon, Ga. W. T. Hendry, formerly drug buyer at Macon, has been transferred to Columbus as merchandising manager. At Macon, Mr. Kerr will be succeeded by E. H. Floyd who has been appointed credit manager in addition to his title of accountant. F. C. Dorough has been named drug buyer at Macon, succeeding Mr. Hendry. Leland Pyles has been appointed pharmaceutical buyer, and H. E. Donnan operations manager at Macon.

Dr. Kunz's Farm Cited

In "The Guernsey Breeders Journal" for November 1, 1944, Fanning Field Farm owned by Dr. Eric C. Kunz of Givaudan-Delawanna, Inc., was cited for the fact that its herd of 47 cows produced 9788 pounds of milk and 456 pounds of butter fat per annum, tops for North Carolina.

Calif. Cosmetic Assn. Elects

The California Cosmetic Association held its annual election of officers at a luncheon meeting in Los Angeles on December 13. The new officers are: president, H. R. Schmidlapp; vice-president, Judge Smith; secretary, Mauro Herrera; and treasurer, Chris Nelson. The trustees are: H. W. Miller, J. A. Cox, Reta Foster, J. B. Nethercutt and H. P. Willats.

Installation of the new officers takes place at the first meeting of the association in January.

Foragers Reelect

The Foragers of America reelected Walter A. Conklin as president, Richard R. Powell, vice-president, and Arthur J. Connolly, secretary-treasurer, at the annual meeting held December 28 at the Midston House, New York. The board of governors for 1945-46 consists of W. W. Neilson, L. S. Huntington, J. A. Curry, V. H. Fredholm, R. F. McGilvray and Oscar Betz.

Jacqueline Cochran Made Director

Jacqueline Cochran, head of Jacqueline Cochran Cosmetics, New York, has been elected a director of Northeast Airlines, Inc., becoming the first woman named to the board of an air passenger transportation company. Miss Cochran, holder of many world air records, has been serving with the Army Air Forces as director of women pilots and head of the Wasps.

At an Abbott Laboratories War Loan rally are Lesley Lear, MC of the Special Events Division of the U. S. Treasury; Commander Jack Dempsey; James F. Stiles, Jr., vice-president and treasurer of Abbott Laboratories; Boatswain's Mate 2/c Caesar Romero, USCG; F. H. Young, vice-president in charge of production of Abbott, and Lt. Frank Canker.

Powers—Fougera Exec. V. P.

John V. Powers was elected executive vice-president of E. Fougera & Co. at a meeting of the directors of the company held December 20.

Curry Elected President

John H. Curry has been elected president of the Ogilvie Sisters Sales Corp., New York. He has been associated with the organization for twenty-five years and was formerly vice-president in charge of sales.

Bonds for Penick Employees

The Treasury Department approved the application of S. B. Penick & Co., New York, to present varying amounts of War Savings Bonds to more than sixty-five of the company's employees who have been in its service from ten to twenty-five years. Amounts were based on length of service and the distribution marked the thirtieth anniversary of the firm.

Botty Back

I. A. Botty, export manager for Harriet Hubbard Ayer, has returned from a business trip to Mexico, and will leave early in January for South and Central America, where the company has distributors in every country.

Carroll Joins Primrose House

George S. Carroll has been appointed general sales manager of Primrose House, Inc., New York. He was formerly sales manager of Cosmetiques Tussy.

Delahanty on Drugs and Cosmetics

T. W. Delahanty of the Bureau of Foreign and Domestic Commerce lectured before the course on "Marketing of Drugs and Cosmetics" at New York University December 4. Mr. Delahanty compared pre-war accomplishments with post-war possibilities. He revealed that while our drug industry now probably accounts for one-half the world's output, the German drug industry, but one-third the size of ours, exported approximately three times as much in pre-war years.

The course in "Marketing of Drugs and Cosmetics" will be repeated during the next semester. It is given Monday evenings from 8 to 10 and is conducted by Associate Professor Bader and Mr. Picker.

FOR FILLING *The Spice of Life*

STOKES & SMITH

EQUIPMENT IS PREFERRED

Illustration shows Model HG-84 Automatic Duplex Filling Machine

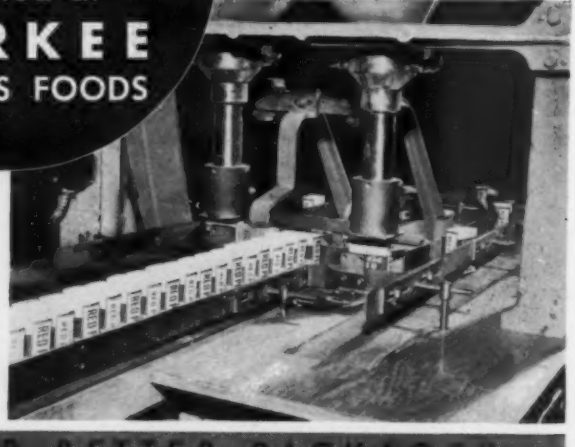
At the home of Durkee Famous Foods in Elmhurst, Long Island, S & S Machines automatically fill containers with the desired amount of Pepper, Cinnamon, Allspice, etc. A clean, accurate fill is provided at 60 per minute production.

Now, while you are formulating your post-war plans be sure to consider your packaging requirements. Although we cannot supply S & S Machines to all as yet, our engineering department is able to help lay plans that can be fulfilled when restrictions are lifted. Send us samples . . . tell us your needs.

S&S

DUPLEX AUTOMATIC FILLING MACHINES *installed at* DURKEE FAMOUS FOODS

A close-up view showing Duplex Auger Feed



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FRANKFORD, PHILADELPHIA 24, U. S. A.

FILLING · PACKAGING · WRAPPING MACHINES

Speeds to suit your needs — 15 · 30 · 60 · 120 per minute

BETTER MACHINES FOR BETTER PACKAGES

Ermold Appoints in Boston

Herbert C. Sheldon, president of the Edward Ermold Co., New York, manufacturer of labeling machines, has announced the appointment of Edgar Hubert as the New England sales manager with offices in the Statler Building, Boston. Mr. Hubert was formerly with J. J. Costello Co., that city.

Bezard Elected Vice-President

Parfums Schiaparelli, Inc., New York, has announced that Louis Bezard, who joined the company September 1, 1944, as production and export manager, has been elected vice-president in charge of art and purchases.

Jackson Directs Endo Advertising

Sidney Jackson has been appointed professional service director and advertising manager of Endo Products, Inc., pharmaceutical manufacturers, to coordinate an expanded promotional and advertising campaign to the medical and allied professions.

Douglas Elected Vice-President

Bernard M. Douglas has been elected a vice-president of Foote, Cone & Belding. Mr. Douglas has been with the agency since it was founded, in charge of the Bourjois, Inc., and Chanel, Inc., accounts. Prior to that, he had been with Lord & Thomas.

General Drug Moves

Aromatics Division, General Drug Co., moved its offices on January 6, to 125 Barclay St., New York 7, the World-Telegram Building. The warehouse and laboratories will remain at 644 Pacific St., Brooklyn, where they have been for many years.

Plough Buys 5 Million in Bonds

The sum of $5,000,000 was invested in war bonds by Plough, Inc., Memphis, in the recently concluded Sixth War Loan campaign. This makes a total of $22,200,000 which the company has invested in war bonds in the six bond campaigns.

Helen Blake Joins Haviland

Gaston T. de Havenon, president of Ann Haviland, New York, has announced the appointment of Helen Blake as sales manager. Miss Blake was formerly with Elizabeth Arden for eight years. At the time of her resignation she was an assistant sales manager.

Orbis Appoints Mexican Agent

Orbis Products Corp., New York, has appointed Agencia Continental de Commercio A. en P. as its exclusive Mexican representative. Their address is Jose Maria Iglesias 35, Apartado Postal 8919, Mexico, D. F.

The employees of Hoffmann-La Roche, Inc. inaugurated their Sixth War Loan Campaign with a rally at Roche Park. $180,400 was subscribed during the first week of the drive.

Arcularius Elected President

Robert S. Arcularius has been elected president of S. P. F. of America, Inc., New York, distributor of Suzy perfumes. Mr. Arcularius joined the organization in July 1940, and was appointed general manager in May 1941. In March 1943 he was made director and vice-president.

Reynolds Joins Merck

Blythe Reynolds, formerly vice-president of Heyden Chemical Corp., is now on the engineering staff of Merck & Co.

Waterbury Paper Box Now Heminway Corp.

The name of the Waterbury Paper Box Co., Waterbury, Conn., has been changed to Heminway Corp. There has been no change in personnel except that Robert E. Crotty, who has been in charge of the New York sales office, has been elected vice-president in charge of sales.

Mann Fine Chemicals in Paterson

The plant of Mann Fine Chemicals, Inc. has been moved to 176 East 7 St., Paterson, N. J., where it will occupy 40,000 square feet. It was formerly located in Woodside, L. I. Its program of manufacturing synthetic organics and medicinals will be expanded through a new department to produce enzymes and amino acids for medicinal as well as industrial purposes.

The New York office remains at 136 Liberty St.

Farleigh Opens Office

Harry Farleigh has opened an office at 50 East 42 St., New York, where he will deal in heavy and fine chemicals. Mr. Farleigh was associated with the Merchants Chemical Co., New York, for many years.

Aubert J. Fay

Aubert J. Fay, founder and president of the Father John's Medicine Co. (Carleton & Hovey Co., Lowell, Mass.) died at his winter home in Miami December 25. He was eighty-four years old.

Orville N. Inabnit

Orville N. Inabnit, manager of the sales promotion department of the Red Arrow Laboratories, Waco, Texas, died early in December. He was fifty-six years old.

STAINLESS STEEL MIXING *and* STORAGE TANKS

Depend on San-I-Tanks for safe handling of all your liquids and chemical preparations. The ideal tank for storage, mixing or processing purposes. Built by tank specialists, San-I-Tanks incorporate every time saving, money saving feature. For special tank adaptations consult our engineers for their recommendations, no obligations, of course.

Government restrictions prevent deliveries at present of stainless tanks for the processing of cosmetics and toiletries. We invite your inquiries for delivery at future date

√CHECK THESE PRODUCTION and EFFICIENCY INCREASING FEATURES

Fabricated throughout of 18-8 Stainless Steel, No. 4 polish on inside, bright finish outside. San-I-Tanks are built to last.

All inside welds are ground smooth and polished. San-I-Tanks are built right throughout.

San-I-Tanks incorporate special self-draining features with specially formed bottoms sloping to the front.

San-I-Tanks are rust-resistant, easy to keep clean and sanitary because of their Stainless Steel construction.

Many special extras available in stock for San-I-Tanks such as covers, motors, agitators, etc.

Built by craftsmen with years of tank building experience—you are assured of years of trouble free, efficient service when you insist on San-I-Tanks.

METAL-GLASS PRODUCTS CO. Dept. D Belding, Mich.

Here's what you'll like about the new

...“HAGERTY HANDY FILLER”

- Durable
- Simple to operate
- Moderately priced
- Convenient sizes
- Eliminates spilling
- Light construction

The most practical hand filler for creams, lotions and liquids.

Write for illustrated folder and prices

HAGERTY BROS. & CO.
10 Platt Street **New York, N. Y.**
Est. 1849

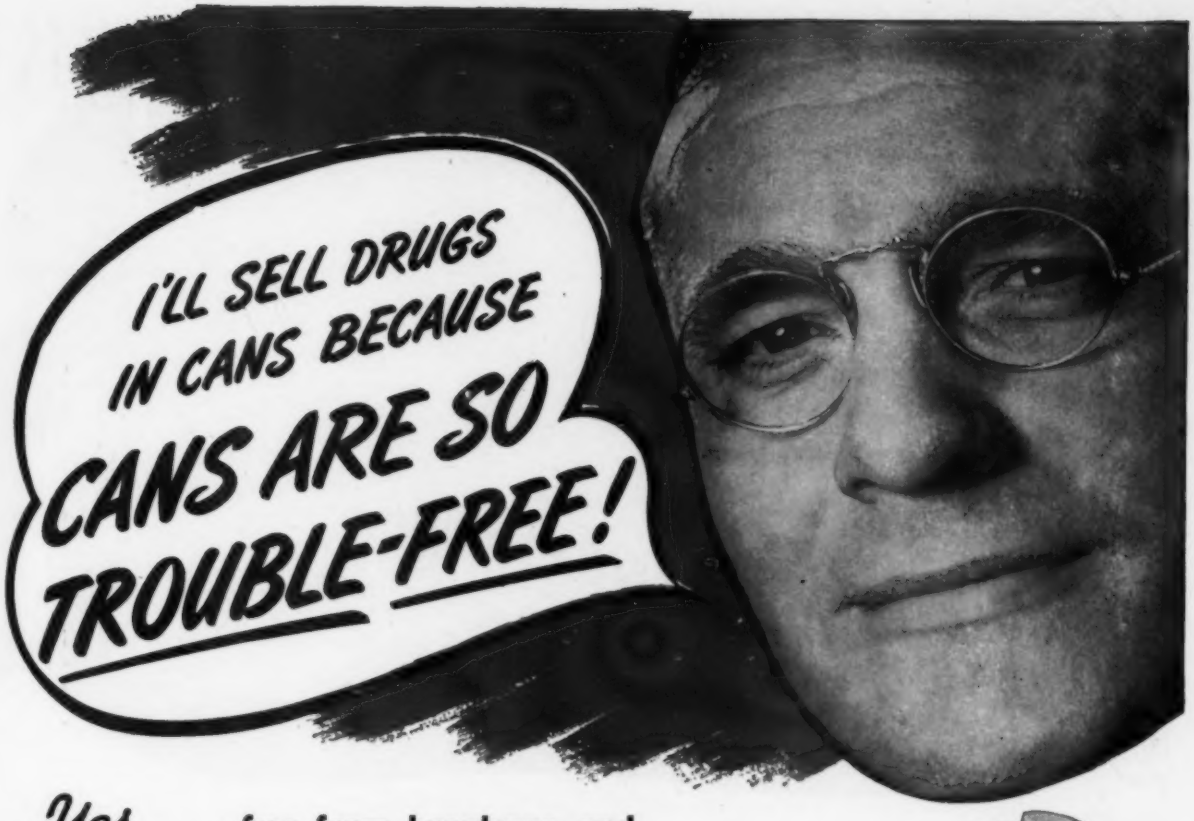
REPUBLIC FILTERS

and media are especially designed for the drug and cosmetic industry to attain the desired degree of porosity, sterility and flow rates.

Our laboratory and technicians are at your service.

Model L-400
Catalog on Request

REPUBLIC FILTERS, Inc.
PATERSON, N. J.
Canadian Sales Office: 32 Front St., Toronto, Canada



Yes . . . free from breakage and spoiled labels . . . ideal for product protection, sales appeal!

• "I manufacture drugs. But I'd feel the same way if I were a druggist or a housewife. As quick as I can get 'em again, *I'll pack my drugs in cans* because cans cut out a bunch of headaches.

"Drugs in cans are safe when handled with wet, slippery hands. Cans don't break. And labels are lithographed on the can...there's no danger of their smearing or washing off. Furthermore, cans protect drugs and toilet goods from bathroom moisture.

"Cans are compact... easy and economical to ship. And they save space on busy drug store shelves. Smartly labeled, colorful cans have lots of sales appeal.

"I'm all for pleasing the public. And the public prefers most of my products in cans."

NATIONAL ADVERTISING SUPPORT!

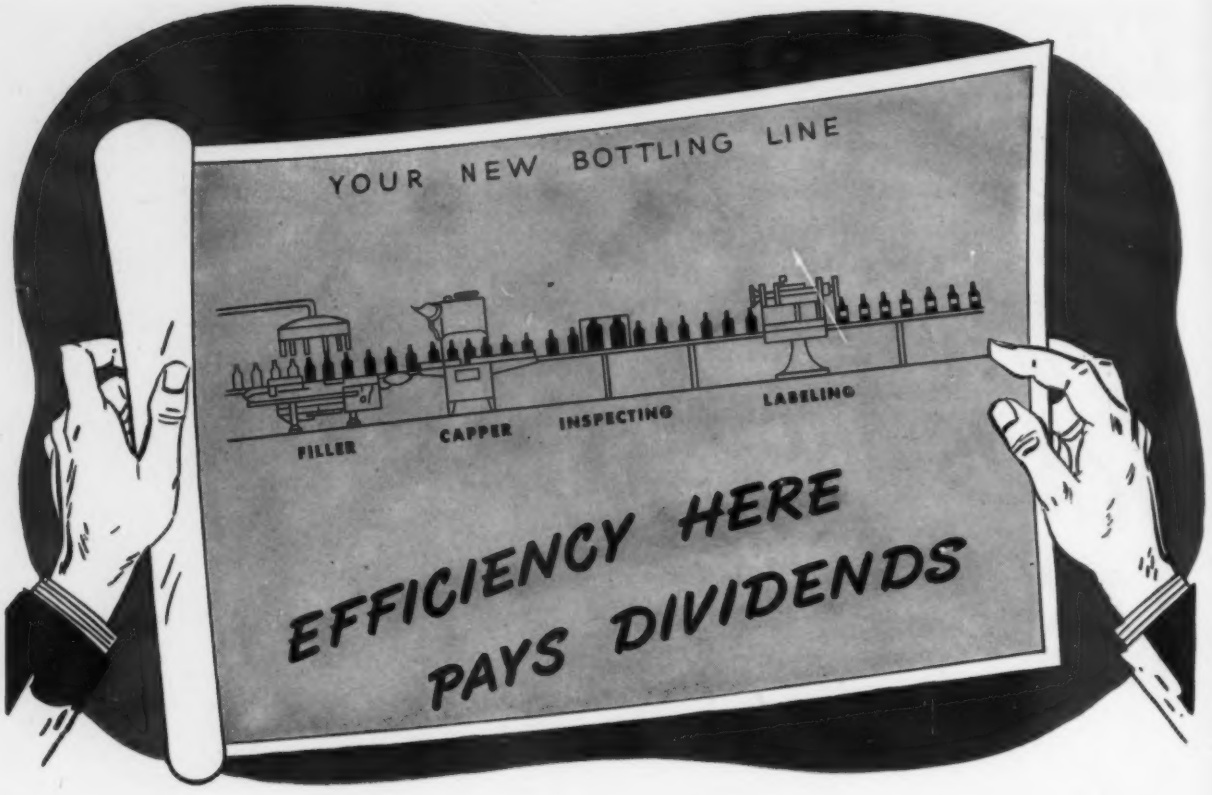
More than 30,000,000 printed messages appear monthly in Sunday newspapers throughout the U.S.A. and in 10 great national magazines, to remind consumers of the many advantages of steel-and-tin cans.

5 BIG REASONS *Why Housewives Prefer* DRUGS IN CANS

1. Safe when handled with wet hands.
2. Labels printed on cans can't drop off.
3. Cans protect from bathroom moisture.
4. They're convenient.
5. ...And economical.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN



Let us help you cut bottling costs

Remember that one source of profit is a fast bottling line. One that ticks along smoothly without a lot of attention.

Such lines, however, don't just happen. They're engineered. The washer, the filler, the capper and the labeling setup must be properly related. That's where Alseco comes in. Alseco machines give you a high-speed, automatic sealing operation which synchronizes with all these units. Alseco offers capping machines in a wide range of capacities, and various sizes and types of caps.

But the place to start is on the blueprint. Alseco engineers are ready to put their savvy to work, along with yours, to lay out a money-making line that fits your needs as closely as an Alseco Rolled-On seal fits a bottle.

Maybe your problem is an immediate one . . . maybe it's a later job. Either way, Alseco will be glad to get together with you now with the idea of doping it out. Drop us a line, won't you?

ALSECO

TAILOR MADE

SEALS AND SEALING MACHINES

ALUMINUM SEAL COMPANY | 341 [illegible] AVENUE | NEW KENSINGTON, PENNSYLVANIA

At your service 30 years of [illegible]

Production Forum

By Francis Chilson

Industrial Consultant

Eisler Engineering Co.

The Eisler Engineering Co., of Newark, New Jersey, specializing for twenty-five years in the designing, developing and manufacture of equipment necessary for the production of vials, pill containers, ampules, eye droppers, stirring rods, pharmaceutical and laboratory glass articles, radio and electronic tubes or similar ware, is considered to be one of the largest, most modern, best equipped and qualified plants of its kind. The important inventions and contributions of Charles Eisler, founder and consultant engineer of the Eisler Engineering Co., especially his practical solutions of intricate problems for the development of automatic glass working machinery, have an invaluable effect not only on economics, but even on public hygiene and welfare. Charles Eisler has developed over 400 different types of automatic glass working machines and also makes small hand operated tools in order to aid the glass blower and operator in simplifying the manufacturing of glass articles. Charles Eisler's machines are in constant use throughout the world and a great many of the manufacturers of glass articles, for pharmaceutical purposes from all countries who have glass problems, consult him on necessary equipment and advisory information.

The Eisler Engineering Co., manufactures several hundred types of gas burners which are used in the glass industries for gas, air, oxygen and illuminating gases such as coal gas, carburetted water-gas, natural gas, oil gas, blue water-gas, etc. This company also manufactures gas purifiers for purifying gases often required to preserve chemicals, and a full line of equipment for evacuating ampules and sealing them during the procedure of evacuation, also electric ovens for drying tablets, vacuum pumps of all kinds, as well as numerous other items required for laboratories and scientific research work.

Men Wanted

Two months ago I pointed out that I need a good chemical engineer to round out my staff. I am willing to pay up to twelve thousand dollars a year to the right man. But he must have had several years of experience in the manufacture of pharmaceuticals and he must know packaging as well as production. The man I am looking for is probably a plant superintendent now. My clients' men cannot for obvious reasons be given consideration, neither can I consider anyone who has not had the specific type of experience mentioned. Also I can use several good engineers who have had pharmaceutical or cosmetic plant experience and all must be willing to travel extensively. Incidentally the two cosmetic plant jobs I mentioned are still open: one in New York. One in Chicago.

Company Wanted

One of my clients has asked me to try to buy for their account a small but well established ethical pharmaceutical company. It really doesn't matter how small the outfit is provided it has at least one good specialty—not a biological, however—and provided further the product has been accepted and detailed for a period long enough to gauge its possibilities. In short any reputable concern selling up to three quarters of a million dollars annually will be considered. All correspondence in connection with this matter will be kept in strictest confidence.

Why Consultants?

For a long time I've wanted to write a piece on the importance of the consultant in plant development but I have hesitated to do it because I thought you'd feel I was blowing my own horn too loud or grinding my own axe. But believe me I'm not. I'm not after more business. I've got too damn much now.

First let me give you the reason why consultants are necessary. You may be the best production man in the trade and the brightest engineer. Still you will need help from an unbiased outsider, broadly experienced in your own or similar industries. No matter how hard you try you can never achieve the outsider's perspective nor his freedom from company politics. If you are big enough to handle a modernization or new construction project, you will have routine executive duties to perform which you cannot entirely delegate.

You'll need this kind of SPEED

for lower postwar costs

Large volume production of goods in small packages requires *high speed* in wrapping if costs are to be kept in line. Our CM-2 Model is meeting this vital need in numerous plants, many of which are working at top capacity to meet government orders.

This machine, with one operator, turns out 250 packages per minute with the utmost ease. It uses plain cellophane, heat-sealing cellophane or glassine in roll form, and incorporates an easy-opening tape in the wrapping, if desired. It not only wraps cartons, but open boats containing loose articles, and is quickly adjustable for various sizes. Conveyor feeds make possible direct hook-up with cartoning machines. Other types of feed available to meet special requirements.

Write for our folder on the CM-2.

PACKAGE MACHINERY COMPANY, Springfield 7, Massachusetts

30 Church St., New York 7 • 111 W. Washington St., Chicago 2
101 W. Prospect Ave., Cleveland 15 • 443 S. San Pedro St., Los Angeles 13
32 Front St., W., Toronto 1

Quickly adjustable for various sizes

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

TEXAS STATE COLLEGE FOR WOMEN
LIBRARY

Production must go on. Sales must be serviced. Besides you cannot help being biased by your own experience. If you have always worked in a multistory plant, you cannot fully appreciate the economies of a single story building. If as a starter, you survey the field your competitors will boast of the good points in their setups and hide the defects. That's human nature.

In short no man who has spent the major portion of his working life with one or two concerns in the trade can acquire the variety of experience with equipment, buildings, materials and men which should form the motivating force of any large undertaking. This statement does not detract from your ability in the least nor should it be a blow to your pride. All progress is cooperative not individualistic. A consultant merely acts as a cooperator. He cooperates with you in coordinating your experience and your business with that of the industry as a whole. And it is a notable fact that the more progressive companies always employ consultants of various types.

The president of one of the smaller firms once boasted to me that he had built up a "self contained" organization. They didn't need even the help of chemical or medical consultants. It was self contained all right—like a rotten egg. It reminded me of a stable. The plant contained lots of good equipment and lots of bad—it was purchased mainly on the strength of catalogue announcements. The plant manager told me ruefully that he knew lots of things were wrong but Mr. Big the Boss, would never allow him or any of his men to visit other plants in the trade because the courtesy might have to be returned. What a hell of a way to run a plant!

As I have so often said if there were true cooperation in the trade neither I nor any other consultant would have any business. But true cooperation would require a constant interchange of experience, ideas, plans and specifications. It would require exchange of engineers for mutual help and criticism. It would require constant visiting among plant managers. It would require frequent meetings.

Such an ideal is Utopian; it would be expensive and impractical because old man Plant Routine would constantly intrude to gum up the works.

If you are going to employ a consultant whom shall you select? Obviously an expert of many years standing in your own industry if that is possible. Engineers who specialize in particular industries can easily be checked up. They cannot afford to make mistakes or it would ruin them. Beware the engineer who professes to be an expert in all fields. Engineering experience as applied to textiles, leather goods or woodworking may be interesting but it will be of damn little practical help to you. Unfortunately there are a few engineering racketeers who prey on industry to the detriment of their kind by professing to be all things to all people. It just can't be done. There are "efficiency experts" who sell incentive plans, inventory control, production control and cost systems. Although they may have the training these men are not really engineers at all. Some of them are really good and if your paper work is pretty bad they can help you a lot. Paper work like all accounting is very similar in principle from industry to industry. But when these "experts" begin to dabble in your plant then you're really headed for trouble. They simply don't know the drug and cosmetic business; the know nothing of the materials involved; the control or legal problems; the merchandising problems; the equipment, the processes or the products.

Some engineering firms are good on power plants which vary little from industry to industry; others shine at heating, air conditioning, construction and other specialties, which differ little in application from one industry to another. Unfortunately some of them make rather extensive claims. They sell staff service. They claim to have men on their staffs who specialize in dust-collecting, power, heating, lighting, material handling, etc. You get the services of all these "expert" specialists for as little as ten dollars an hour per man! Two men: twenty an hour: one hundred and forty a day: twenty-eight hundred per month of twenty days—plus extras. The bill runs up pretty fast. In the meantime you are paying for their education in the drug and cosmetic industry as it is manifested in *your* plant and your plant is manifestly cockeyed or you wouldn't have called them in. One of my friends told me he once fell for this approach and it was six months before the engineering outfit involved had absorbed enough to turn in a preliminary report. Any engineer versed in the industry could have turned in the report in two weeks. It is an odd commentary that twenty years ago this same outfit fell for a big name architect who sold them a bill of goods—and how! As Barnum said some people never learn.

Still another type of firm has a different approach. They tell you with disarming frankness that they know nothing about your business or your equipment; it would be hopeless for them to try to learn it. So instead, since your key men already know the business and the equipment, all they propose to do (for a substantial fee of course) is to set up a training school to train your key men in the application of industrial engineering principles. Then everything will be rosy. The course is organized. There are lectures, demonstrations, movies; Edgar A. Guest and Elbert Hubbard are quoted for inspiration and a grand time is had by everybody—for a while. The "teachers" move on. The plant hasn't changed much if any. Old man Routine bears down and presently the "training" is a hazy. memory. Such plans have never and will never work. I've been through two or three of them in my time, The only way to reorganize a works is to set up a plan, discuss it and get going on it; but be sure to have someone pushing and checking up all the time.

But the biggest racketeer I think is the bird who "works for nothing." He merely takes a percentage of your savings. His percentage is taken in advance of course, on the basis of paper savings. A "reference

Three "Musts" for Users of Tablet Machines

- **Keep them clean**
- **Keep them well lubricated**
- **Keep pressures to a minimum**

To operate your tablet machines efficiently, to minimize wear, to enable them to give you the years of service for which they were designed and built, they must be kept clean and well lubricated and punch pressures should be no greater then absolutely necessary.

How to care for machines, punches and dies . . . how to avoid overloads . . . how to make softer granulations . . . how to store punches not in use . . . many other helpful suggestions will be found in the booklet "Tips," prepared especially to help you train new workers in the care and operation of tablet machines.

If you have not already had a supply of these booklets we suggest you write for as many as may be needed for all the men responsible for machine operation and maintenance.

F. J. STOKES MACHINE COMPANY
5932 Tabor Road Olney P. O. Philadelphia 20, Pa.
Representatives in New York, Chicago, Cincinnati, St. Louis
Pacific Coast Representative • L. H. Butcher Company Inc.

F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

week" is set up. The reference weeks purports to show the cost of operating a certain department for certain weeks. That's the yardstick. It looks plausible and you accept it. You don't know it is based on the worst possible conditions because the "engineer" selects the week. Then the "savings" are made, usually by some form of rate system, and you pay off weekly. At the end of the year when the books are closed, you undoubtedly will find that your end of the savings if any, have not materialized as you expected. Too bad, son, but experience is expensive! You may still get a dividend come Christmas in the form of an autographed photograph of the president of the engineering outfit, to whom, incidentally, you will have written an enthusiastic letter praising the services of his organization when the first paper reports of paper savings began to come in. Try to get that letter back!

We engineers who consider ourselves ethical try to fight the few racketeers in our profession. But we can make little headway because so many manufacturers are so gullible. There are many reputable engineering firms. Generally their prices are high. Generally they do not solicit your business; you go to them on the basis of recommendations satisfied clients have made. Generally they will not take on assignments unless they are reasonably sure they can do a satisfactory job.

Beware the engineer recommended to you by your banker. Bankers know everything about money and nothing about business. They are as gullible as children in some directions. Anyone who dresses well, looks impressive, wears the right frat pin or school tie, belongs to the right clubs and uses fluently the old shibboleths about budgets, cost control, financial forecasting, etc., will not fail to impress a banker. As a matter of fact such sauve men are much more likely to impress your big time New York banker than the shrewd little skinflint who runs your local bank and who thinks a dollar is money. Remember Ivar Krueger? Remember Coster of McKesson & Robbins?

Lucky is the consulting engineer who has big city banking connections. Banks always have some sickly companies on their hands to worry about. They also have solid friends. Many company directors with banking connections are forever having their companies investigated or surveyed. Good work!

In spite of the racketeers and the four flushers in the profession, reputable consultants perform an invaluable service. No intelligent business manager will attempt to get along without them. No intelligent operator will employ one without a first hand investigation of the individual's or the firm's previous jobs. Make certain that your consultant has had a lot of practical experience in your own industry or one closely allied to it. Take your time, and when at last you've decided you've got the right man or firm, then give him your complete confidence and all the intelligent cooperation you can muster throughout your organization. Do this and he will save you not only many times what you pay him but a damn lot of headaches as well.

Ross Semi-Automatic Cartoner

I am delighted to be able to announce with the beginning of the New Year, the introduction of a new semi-automatic cartoning machine. You will recall that from time to time in the years immediately prior to the war, I wrote a number of articles pointing out the great need for a semi-automatic cartoning machine which would be adjustable over an extremely wide range of carton sizes. I did more. I, in cooperation with John Friden, of Newark Engineering Company, invented one. The machine was built and tested and it looked perfectly marvellous excepting for a few minor bugs. These bugs were never ironed out because the war started, and the Newark Engineering Company immediately devoted its entire facilities to the production of precision instruments for the Army and Navy and the machine was put under wraps. This machine differed radically from the one described below. My machine glued the bottom flaps of the cartons. The Ross machine described below tucks the bottom flaps.

Although the machine in which I am personally interested has failed to reach the market first, I am not a bit disappointed because the Ross machine looks like a swell job and it is badly needed throughout the entire industry.

The Ross unit illustrated here is semi-automatic, with a capacity range from 40 to 120 cartons per minute. This forms and tucks one end, discharging on a conveyor with the open side up, so that operators can insert the load quickly in pace with the machine. Mr. Ross is also working on a fully automatic unit, which he says will have a speed between 150 to 200 per minute, varying with the load to be inserted. The fully automatic, of course, will insert the load and complete the package. It will be produced in two sizes, covering the full range of carton sizes in general use.

An outstanding feature of the Ross semi-automatic machine is its simplicity of adjustment. The few adjustments needed to change the machine from one size carton to another are all of the dial type; a few turns on a half dozen dials (conveniently accessible) and the job is done. A chart is delivered with each machine upon

Here's the ROSS-CHILSON Dryer

COMBINES both continuous and batch dryers in a single streamlined unit!

Distinctive Features

In tunnel drying, material passes through 4 separate zones, allowing the use of the proper drying cycle. Automatically operated over head doors separate each zone except during the moving of the trucks.

In tunnel drying, air travels in alternate directions for uniform drying on all trays.

When used in batch drying, four different materials can be dried without contamination.

All parts of dryer easily accessible for thorough cleaning.

The tremendous operating advantages of this remarkable combination dryer will be instantly apparent to production executives throughout the industry. Automatically controlled doors at opposite ends permit its use as a tunnel dryer for continuous large quantity production. Side doors to four distinct and separate compartments permit its use as a batch dryer. Separate controls maintain any desired condition of humidity and temperature in each of the compartments. With this new ROSS-CHILSON Dryer, large production or small batches can be properly handled in the same dryer. Consider the possibilities for your product and process.

ROSS SYSTEMS

J.O.ROSS ENGINEERING CORP.

350 MADISON AVE., New York 17, N. Y.

CHICAGO – 6
201 North Wells St.

BOSTON – 9
79 Milk St.

DETROIT – 3
12953 Greeley Ave.

ROSS ENGINEERING OF CANADA, LTD., Dominion Square Building, Montreal, P. Q.
CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

CONTROL OF AIR FOR MODERN INDUSTRY

which the dial settings are recorded for each type of carton, so that changeovers can be made in a matter of minutes even by inexperienced operators. Such a feature is of particular interest to manufacturers of such products as drugs and cosmetics, where short runs and a wide range of carton sizes are everyday problems.

The magazine feed has an interesting device which automatically shows a red light when the supply of cartons needs replenishing. If the attendant neglects for any reason to reload with more cartons, the machine automatically stops. The light remains flashing until the line is again running.

Readers who are engineering minded will be impressed by certain features of construction. All parts coming in contact with cartons are hardened steel, chromium plated and highly polished; shafts and moving parts all are equipped with grease-sealed ball bearings, which besides reducing friction to a minimum eliminates failure of the human element to oil the machine; all the gears and friction parts run in oil; operating speed is controlled by a master speed range drive, operated by a slight turn of a wheel. Wherever possible, bearings, gears, chain, etc., are standard units obtainable anywhere to facilitate obtaining replacements locally should this be desirable. A contributing factor here is the fact that all units of the machine are standardized to close tolerances, so that repairs, wherever secured, will fit without adjustment.

Ross states that his new carton set-up machine is streamlined in the true meaning of the term; that is, streamlining is designed into the machine and made a part of the mechanism. "We have not taken an old mechanism and covered it with a streamlined shroud. A machine so constructed will remain in that condition and will not develop mis-alignments for example, to cause excessive wear. Our company believes that the tolerances maintained in all our machinery operations has brought something quite new to the field of carton making equipment. Frankly, we owe that concept in large measure to our experience in the manufacture of high precision parts for bombsights and gyroscopes. And we see no reason why these principles cannot be applied to the manufacture of cartoning and packaging machinery without increasing their basic cost." Write A. H. Ross & Co., Ludlow, Ky.

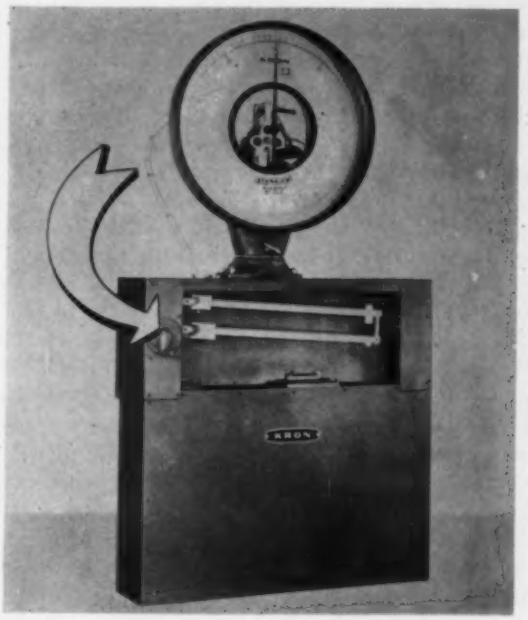
Send for a Copy

Beach Russ, Inc., 56 Church St. have issued a comprehensive bulletin on vacuum pumps. The bulletin contains much interesting data.

Kron Scales

The KRON Unit Weight Cabinet attachment answers industrial requirements for a high gross weighing capacity scale with low and accurate "fractional" weight dial chart graduations. This scale is equipped with the standard KRON dial mechanism, swivel head, tare and capacity beams and drop weights to provide the greatest gross platform capacity of any scale of its type.

The unit weight increment principle around which this scale is designed is simple and fool-proof. By rotating the handle on the left of the cabinet front (see illustration), from 1 to 7 unit weight increments, each equivalent to the dial chart capacity, can be added to



the lever system to increase the gross weighing capacity of the scale. The weight increments are indicated in a target on the dial chart as they are added to the lever system. Flexible cables connecting this target to the drop weight mechanism allow the dial head to swivel to any desired position.

The outstanding advantage of the KRON Unit Weight Cabinet Scale to users requiring a high gross weighing capacity combined with accurate "fractional" weight readings is the ease, simplicity and precision with which the gross weighing capacity of this scale can be increased as much as nine times for heavy-duty service, while still retaining low dial chart graduations.

KRON Scales are available for weighing, counting, batching, testing, measuring. A catalog of models is available through the maker, The Yale & Towne Mfg. Co., Philadelphia Division, Philadelphia 24, Pa.

Mislabeling

Every once in a while you read a news note that makes your blood boil. The cause of my elevated temperature at this time is the grossly unfair charge against Merck & Company for mislabeling Doryl. In the way the Justice Department announces charges of this kind, there is always an implication in the wording of the announcement that the manufacturer was de-

liberately dishonest or careless. In this instance, the charge was that Merck was "grossly negligent by its mislabelling of the drug." No greater untruth could be uttered. That Merck could have made a mistake is possible. Everybody does. That they were "grossly negligent" is nothing short of slander. I once worked for this outfit. My work had to do with the layout of the warehouse, packaging and shipping departments. In this connection, I had an opportunity to study the methods used in preparing copy and controlling labels. I can say that never had I seen such exceptional care given to the handling of labels. As a matter of fact, Merck bent so far backward to avoid the possibility of error that I used to think that they carried caution to an extreme degree. What makes the charge of the Justice Department all the more unfair in this instance is that the product is one which could never get into the hands of the public. It is a hospital supply item and is used only by physicians and hospitals. The A.M.A. and the F.D.A. some times work at cross purposes. The A.M.A. desires manufacturers to put as little copy as possible on the labels of their ethical products in order to minimize the danger of self-medication. On the other hand, the F.D.A. wants the copy excessively detailed with all of the warnings possible in the available space. When a product is designed for and used only by professional people, it seems hardly necessary to attach a book to the container so that users won't make a mistake. In any case, no amount of label copy will ever force people to read it or will ever prevent careless errors.

Valedictory

Every now and again, a man states a simple truth and so simply, his utterance becomes a classic even though, because of its simplicity, the greatness of the statement was not remarked at the time it was made. Such, I believe, is the statement made in May 1938 by Wendell Willkie in an address to the students of his Alma Mater at the University of Indiana. It was my good fortune that through its appearance in *Fortune*, I read Mr. Willkie's classic statement and through the courtesy of the stated magazine, I am now passing it along to you:

"So, just as I left the University of Indiana twenty-five years ago, sworn to defend the liberal cause, I return to it today pledged to the same purpose. The liberal cause is still in need of defense. I do not doubt that you will defend it. You could hardly spend four years here in this university, in this state, without absorbing a faith in the rights of man. Perhaps I should warn you, however, that liberalism is neither easy nor sensational. Very rarely is it called upon to storm the barricades with flags waving, and very rarely can it rely simply upon a good heart to determine the merits of its cause. Frequently you will find yourself in the minority, and sometimes you will find yourself alone.

"The fact is that the liberal attempts to do the most difficult thing in the world, namely, to strike a true balance between the rights of the individual and the needs of society. He is like a man rowing a boat who when the boat swings to the right, pulls on the left, and when it swings to the left, pulls on the right. Liberalism sticks to the middle of the road, speaks quietly and insists upon the color of no man's shirt. If its voice seems small in the present tumult—if its ranks seem thinned among the regiments in uniform—let that be a sign to you, who have been educated in its spirit, to recognize the urgency of its cause."

Air Sterilizing Lamp

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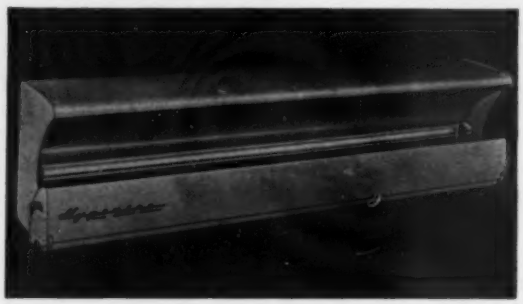

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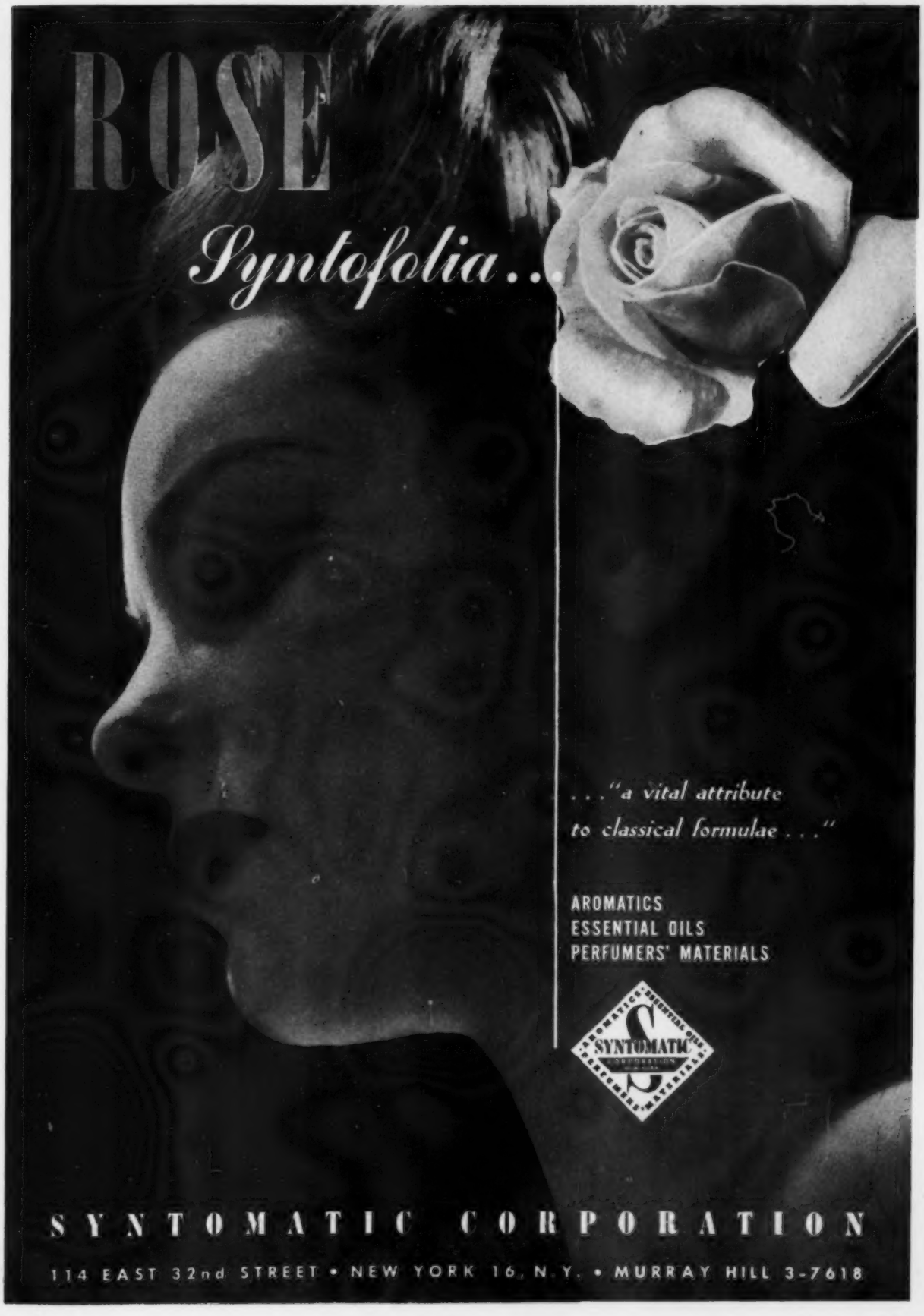
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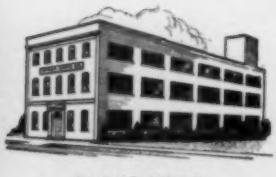

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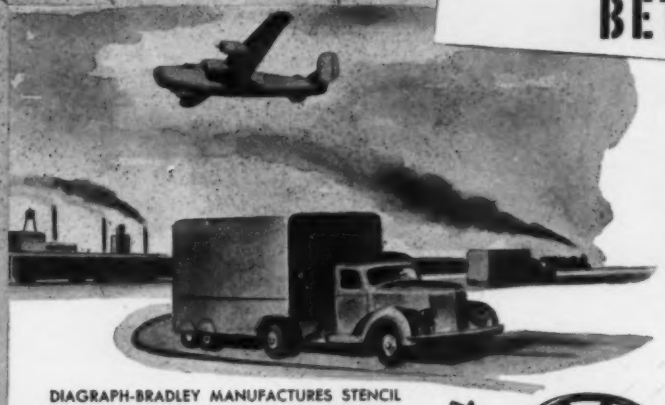

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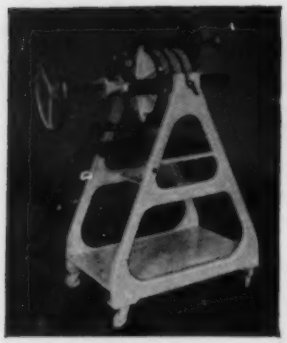

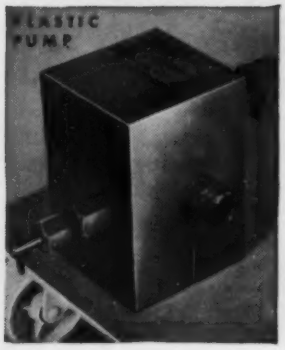

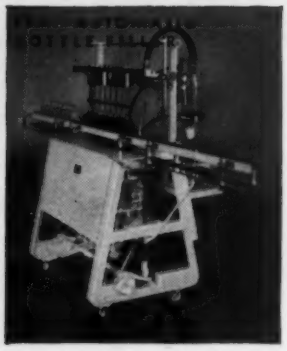

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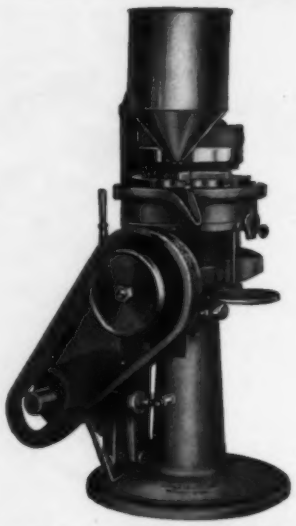

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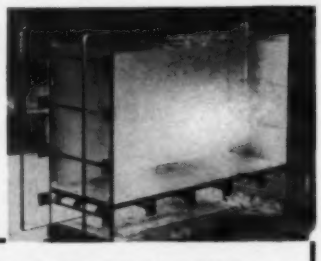

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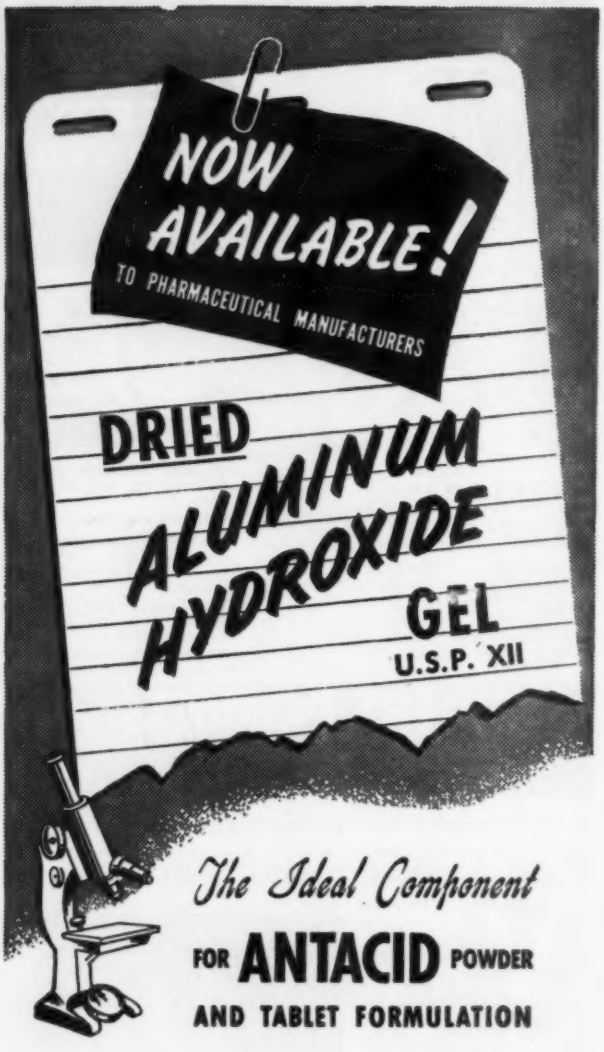

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Amino Acid Deficiency Effects

In a paper presented before the Division of Agricultural and Food Chemistry of the American Chemical Society, L. E. Holt, Jr. pointed out that the essential amino acids not only serve to build body proteins, but perform various other specific functions. Specific deficiencies will not only lead to hypoproteinemia, but will produce characteristic clinical and pathological pictures which are gradually being recognized.

For example, tryptophane deficiency is characterized by a symptom complex including cataract, corneal vascularization, alopecia, hypochromic anemia, enamel defects and testicular degeneration; in the female, reproduction is inhibited. Lysine deficiency likewise leads to anemia and affects the female reproductive function. It may also lead to headache and vertigo symptoms which were associated with increased output of a non-ketone organic acid. Arginine deficiency causes rapid testicular degeneration in rats and hypospermia and azoospermia in man. Valine deficiency has been shown by Rose to lead to a peculiar nervous disorder in rats. Griffiths and others have found that methionine deficiency leads to hemorrhagic nephritis and cirrhosis of the liver.

Allicin, Antibacterial Principle of Garlic

During the last year, considerable interest has been focused upon the antibacterial action of garlic. In two papers published in the *Journal of the American Chemical Society* (66: 1950 and 1952, 1944), C. J. Cavalito and his associates report on the isolation, chemistry, physical properties and antibacterial action of allicin, the antibacterial principle of garlic (Allium sativum). Allicin was isolated in the pure state as a colorless liquid, about 2.5 per cent soluble in water, and relatively unstable. In the studies of this and other garlic components, it was found convenient to use the penicillin assay method and penicillin as a reference standard for the assay of the garlic preparations. Garlic constituents, formerly considered responsible for the antibacterial action, showed comparatively poorer effects and some had no effective action against the microorganisms.

It was found that the action of allicin is considerably more bacteriostatic than bactericidal. It is about equally effective against Gram positive and Gram negative organisms. By the cylinder-plate method against S. Aureus, Allicin shows an actively equivalent to about 15 Oxford penicillin units per milligram, which is about 1 per cent of the activity of penicillin. However, it is important to note that allicin is equally effective against the Gram negative organisms which are practically uneffected by penicillin. The antibacterial action of allicin is unaffected by the presence of para-aminobenzoic acid.

Status of Cold Vaccines

In a review of the use of vaccines for the common cold, the Council on Pharmacy and Chemistry and the Council on Industrial Health, of the American Medical Association (*J.A.M.A.* 126:895, 1944) have come to the following conclusions regarding these agents:

"Vaccines prepared from a variety of bacteria commonly found in the respiratory tract have been prepared and combined in sundry ways and have been administered by various routes with the purpose of preventing colds, decreasing their incidence, ameliorating their symptoms, shortening their duration or decreasing their complications, or all of these combined. These objectives are all highly desirable. Unfortunately the evidence of individual case reports does not have any value in a disorder such as "the common cold," which probably covers a multiplicity of infections which are only symptomatically related. The only evidence which has scientific value is that which can be obtained by carefully controlled studies by qualified observers on large numbers of persons over a sufficiently long period of time to overcome the natural fluctuations in the major features of this symptom complex. Decisive evidence of the value of any vaccine is not forthcoming, and the weight of careful studies clearly indicates that none of the vaccines now available when administered by the routes advised have proved value. Vaccines for colds cannot be recommended for routine administration to industrial groups or to individuals. At present any attempt to prevent colds by the use of vaccines must be recognized as purely experimental and any proposal to administer such a vaccine, if given at all, should take this into consideration. As in all measures of a purely experimental nature, the uncontrolled use of any cold vaccine now available should be discouraged. Industrial physicians are under particular obligation to employ cold vaccines, if at all, only under the most rigidly controlled conditions and to report their results so that useless preparations can be promptly eliminated and further progress made.

Blood Plasma Plastics

A note in *Chemical and Engineering News* (22: 1954, 1944) reports that two new plastics made from the plasma of Red Cross blood donors have been announced by the Department of Physical Chemistry, Harvard Medical School: a synthetic membrane used in treating burns, and a dark brown solid that slowly softens when implanted in the body and offers possibilities in medical use.

Sulfadiazine Prophylaxis of Infectious Diseases

In an article in the *Indiana State Medical Association Journal* (37:447, 1944, H. A. Warren reports experiences in the use of sulfadiazine in controlling both sick call and hospital admissions from acute infectious diseases in more than 9,000 men. This study was conducted as a part of the Army Air Forces Rheumatic Fever Control Program. Sulfadiazine in a prophylactic dosage of 3 Gm. once weekly proved ineffective in reducing the incidence of acute infectious disease among a group of 140 soldiers, but in prophylactic doses of 1 Gm. daily it effectively reduced the incidence of certain acute infectious diseases among 9,000 soldiers.

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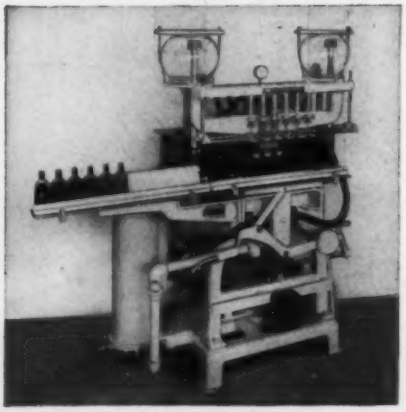

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This effect was evident both on admissions to the outpatient department and on hospital admissions for acute infectious diseases. Diseases caused by beta hemolytic streptococci, scarlet fever and nasopharyngitis due to streptococci were most effectively influenced. A definite effect was also apparent on the incidence of rheumatic fever occurring at a later period than the effect on acute hemolytic streptococcus disease. There was no effect on diseases caused by virus infection or of unknown etiology under this method of prophylaxis. Among 9,000 men, only 34 toxic reactions were encountered, and none of them were serious.

Vitamin-C Sulfa Compounds in Wound Healing

S. L. Ruskin (*Arch. Otolaryngol.* 40:115, 1944) believes that the local effect of vitamin C is independent of the systemic level of ascorbic acid, hence vitamin C applied locally to wound tissue presents an additional factor in healing. The relationship of ascorbic acid to the bacteria in the wound area was investigated and the conclusion reached that it serves as a detoxicating agent. The possibility of using vitamin C in chemical combination with the sulfonamide drugs opened up a most interesting avenue of investigation. The chemical properties of ascorbic acid are such as to reduce the alkalinity of the sulfonamides. The vitamin also lends a hygroscopic factor which tends to prevent caking of sulfanilamide, thus prolonging uniform absorption. Using sulfanilamide ascorbate in the treatment of wounds in and about the ear, Ruskin was able to maintain visual control of chronic, nonhealing wounds involving bone. He presents a number of cases which indicate that sulfanilamide ascorbate and sulfathiazole ascorbate both stimulate healing with epithelization.

Scarlet Fever Treatments Compared

According to M. J. Fox and N. F. Gordon (*Arch. Int. Med.* 74:1, 1944) three types of therapy for scarlet fever are available: (1) chemotherapy with sulfonamide compounds, (2) administration of commercial antitoxin and (3) administration of convalescent serum. Basing their opinions on an analysis of results obtained in 7,500 cases hospitalized during 1937 to 1943, they conclude that sulfonamide compounds find their chief value in the treatment of certain complications. These drugs are of no value in the management of the toxic phase or type of scarlet fever. The use of commercial antitoxin, prepared with horse serum, combats the toxic phase of the disease but introduces the danger of foreign protein reactions. Pooled human convalescent serum produces rapid clinical response and offers the best means of therapy. Notable beneficial effects of pooled convalescent serum included prompt subsidence of fever, alleviation of signs and symptoms avoidance or improvement of complications, shortened period of hospitalization and lower mortality rate. The last mentioned consideration is especially significant in view of the fact that the lower mortality rate was obtained in a group of patients who were more severely ill. Smaller doses of convalescent serum than have been previously used have been found to be effective.

Penicillin in Ear Diseases

It is only lately that sufficient penicillin has been made available for the treatment of conditions other than overwhelming infections which didn't respond to other forms of therapy. With increased production, C. A. Swanson and D. C. Baker, Jr. (J.A.M.A. 126:616, 1944) were able to use this potent agent in the treatment of more common ear diseases. The drug was found to be of value in the treatment of acute otitis media, acute mastoiditis, acute labyrinthitis and chronic otitis media. Penicillin has been employed with substantial benefit in many instances in which other forms of therapy had failed. It was possible either to avoid surgical intervention for acute mastoiditis or to use the drug as a supplement to surgery with significant help.

When the drug is instilled into the mastoid cavity after operation, healing is prompt and the period of convalescence is shortened. In their opinion penicillin is the most powerful chemotherapeutic agent available to combat acute otitis media, acute mastoiditis and their complications.

Pectin Solutions for Shock

After experiences with pectin solutions given prophylactically to 275 patients during some major surgical procedure on the gastrointestinal tract, R. D. McClure, K. W. Warren and L. S. Fallis (*Canadian M.A.J.* 51:195, 1944) concluded that intravenous pectin solution, though inferior to blood or plasma, appears to be of more value than glucose or saline solution in the prophylaxis of shock in extensive surgical procedures. Pectin in nontoxic and nonantigenic in the quantity of 1,000 to 1,500 cc. usually required to maintain blood pressure in the presence of shock-producing conditions. Untoward results appeared only after the intravenous injection of amounts in excess of 4,000 cc.

Emphasis is placed on the care which must be observed in the preparation and standardization of pectin solutions. Each batch must be tested separately for its osmotic pressure, viscosity and specific gravity. The *pH* must be adjusted carefully to 7.0.

Caffeine and Peptic Ulcer

As a result of laboratory studies and clinical investigations, J. A. Roth, A. C. Ivy and A. J. Atkinson (*J.A.M.A.* 126:814, 1944) present evidence which strongly indicates that the excessive use of caffeine-containing beverages may contribute to the pathogenesis of "peptic" ulcer in the ulcer-susceptible individual, may aggravate an ulcer already existing and may render the therapeutic management of the condition more difficult. They found that caffeine-containing beverages stimulate gastric secretions in man. They also noted that coffee substitutes produced by roasting cereal contain secretagogues which stimulate gastric secretion. Coffee stimulates gastric secretion because of its caffeine content and because of other secretagogues (natural, roast products or irritant volatile oils). In patients with "peptic" ulcer, caffeine and caffeine-containing beverages provoked a prolonged increase in the total acid output of the stomach.

Five of a group of 50 "normal" or symptom-free subjects responded to a caffeine test meal like an ulcer patient. It is significant that three of these five subjects have subsequently developed the ulcer type of distress and one of these has developed an ulcer demonstrated by X-ray.

Tyrothricin for Skin Ulcers

Tyrothricin, which consists of gramicidin and tyrocidine, has been reported to be of value in the treatment of mastoiditis, empyema, suppurating arthritis and deep wound infections. While investigators have commented upon the action of this antibiotic on the bacteria in ulcers, L. M. Rankin (*Am. J. Surg.* 65:391, 1944) points out that no mention has been made of one property that he noticed in 5 of 6 old chronic skin ulcers treated with tyrothricin, namely tissue stimulation. Tyrothricin did not cause toxic symptoms in any of Rankin's patients. It was a good antibactericidal agent when applied locally; it caused no pain or discomfort when used locally in the proportion of 0.25 cc. to 99.75 cc. of water. Excellent results were obtained in 5 of the 6.

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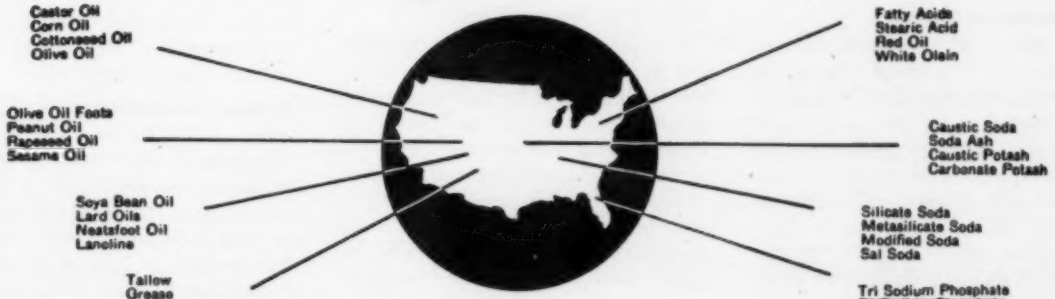

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Cinnamon

One of the oldest known spices is cinnamon. Emperor Augustus during his reign sent at least one expedition to Arabia and East Africa for this valuable spice. The price was said to be $40.00 per lb. in those days. The cinnamon of commerce comes almost entirely from the Island of Ceylon where it is cultivated extensively. About 42,000 acres are used for raising this valuable spice on the island. The peeling of the bark commences in early May and continues to October. The Chaliya goes through the plantation and as he sees shoots of the proper length, strikes them obliquely with a hook-shaped instrument. If the bark separates freely the sticks are tied in bundles and firmly pressed. In twenty-four hours a slight fermentation takes place which facilitates removing the cuticle from the bark. It is then packed in 100 pound bales for shipment.

Cassia bark is cultivated extensively in southeastern China, Java, Sumatra and French Indo-China. Very small amounts have been raised in Florida and Southern California. The quality is not as fine as the bark obtained from Ceylon as it is of a different species.

The true oil of cinnamon bark Ceylon is rarely used in perfumes and cosmetics but naturally finds a wide use in food products. The oil of cassia distilled from the cassia bark, however, is much cheaper in price and is used in soap, perfumes, soft drinks, bakery products and dentifrices. It is subject to heavy adulteration by cinnamic aldehyde. Today oil of cassia is unobtainable but cinnamic aldehyde has helped to replace the natural oil in many respects.

Oil of cinnamon leaf is distilled in April, and May, and finds some use in soap products. However, its main use is a raw material in the manufacture of vanillin.

Perfumer's Shelf

Adulteration of Ginger

According to E. Steinegger (*Pharm. Acta. Helv.* 19:167, 1944) examination of a number of Swiss market samples of ginger showed that most were adulterated with Japanese ginger, though the exact species of the latter could not be stated with certainty. The adulteration is readily detected by microscopic examination, and is shown by the presence of numerous compound starch grains, of diameter 3 to 15μ.

Flavor of Natural and Synthetic Menthol

S. Ljungnerg (*Svensk. Farm. Trd.* 46:551, 1942, through *Chem. Abstr.* 38:4757, 1944) undertook a comparison between the flavor of natural and synthetic menthol. Based on flavor tests of paraffin preparations of both types of menthols, it was shown that natural products are stronger than the synthetic preparations in the ratio of 1.5 to 1.

Peppermint Nomenclature

It is pointed out by G. M. Hocking and L. D. Edwards (*J.A.Ph.A.*, Scientific Ed. 33:333, 1944) that peppermint is cultivated on a larger scale than any other herb used in medicine or in the pharmaceutical, aromatic and cosmetic industries. However, despite its extensive production and usage, much difference of opinion prevails as to the names, both scientific and vernacular, which should properly be applied to the species and its subdivisions. Therefore, a study of the nomenclature and subdivisions within *Mentha* piperita has been carried out.

In accordance with the International Rules, it would appear proper to designate the species as *M. piperita* L. *pro parte*, Hudson, in place of the customary *M. piperita* L., inasmuch as Hudson's proper identification (1762) preceded that of Linaeus' emended description (Sp. Pl., 2nd ed., 1763). This is in line with the considered opinion of the most profound students of *Mentha* (J. E. Smith, Bentham, Malinvaud, Briquet). It is manifest that confusion could be avoided by limiting the vernacular term "peppermint" to *M. piperita* and its varieties, instead of employing the name as broadly as is now done.

Determination of *Mentha* species is found to be frequently in error, and this may at least in part explain the important discrepancies in volatile oil analyses. As a case in point, the authors cite in detail the misidentification as *M. piperita* of a species in the *M. arvensis* complex.

Essential Oils from Inula Crithmoides

In a report on the proximate principles of *Inula crithmoides L.*, family *Compositae*, M. Harispe-Granaperrin and J. V. Harispe (*Bull. soc. chim. biol.* 24:416, 1943) discuss the extraction and physical constants of the essential oil from the aerial parts. Upon steam distillation, the fresh leaves yielded 0.03 per cent of a strongly levorotatory essential oil with a terpene odor. The flower heads yielded 0.2 per cent of a strongly detrorotatory essential oil. However, the composit on of these oils were not determined.

Camphor Basil, a New Camphor Plant

The camphor basil, *Ocimum canum* Sims, is described by H. Fischer (*Deut. Apoth.-Ztg.* 58:294, 1943) as a new camphor plant of the East. Cultivated in the Ukraine, the thrashed plant tops contain from 3 to 3.5 per cent of an ethereal oil containing 50 to 60 per cent camphor. In 1942, the harvest yielded 1.5 metric tons of camphor and a like quantity of the ethereal oil.

Cinnamyl Cyanoacetate

The method for preparing cinnamyl cyanoacetate, a new ester of cinnamic alcohol, is described by W. Kimel and A. C. Cope in the *Journal of the American Chemical Society* (66:1613, 1944). In their method, 20 Gm. of ethyl cyanoacetate and 25 Gm. of benzene were added to a solution of 0.5 Gm. of sodium in 25 Gm. of cinnamyl alcohol. The benzene ethanol azeotrope was removed by distillation through the total-reflux type column during five hours. The product was washed and distilled, and yielded 14.3 Gm. of cinnamyl cyanoacetate, with a boiling point of 163-166° C. The ester solidified and was recrystallized from a mixture of ether and pentene; its melting point being 56.5-57° C. The odor of the ester was not given.

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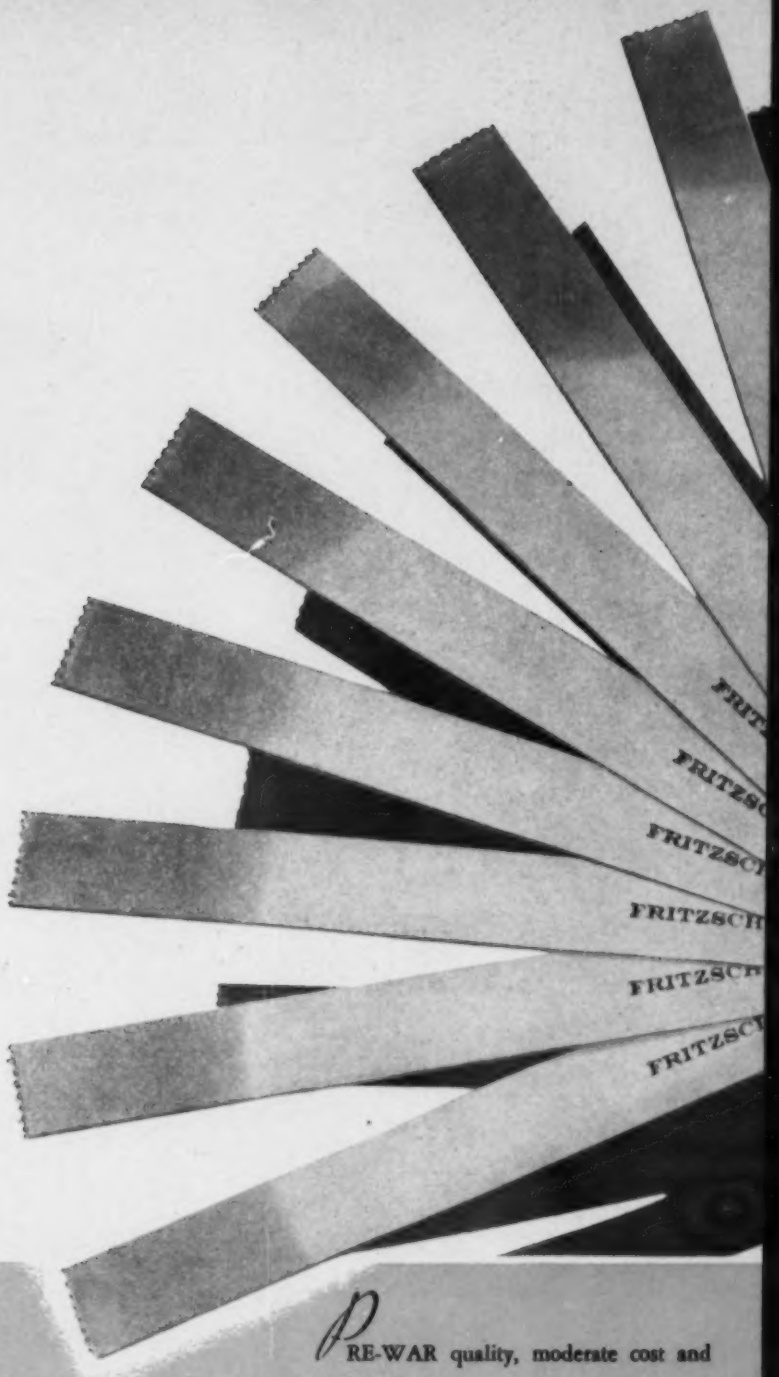

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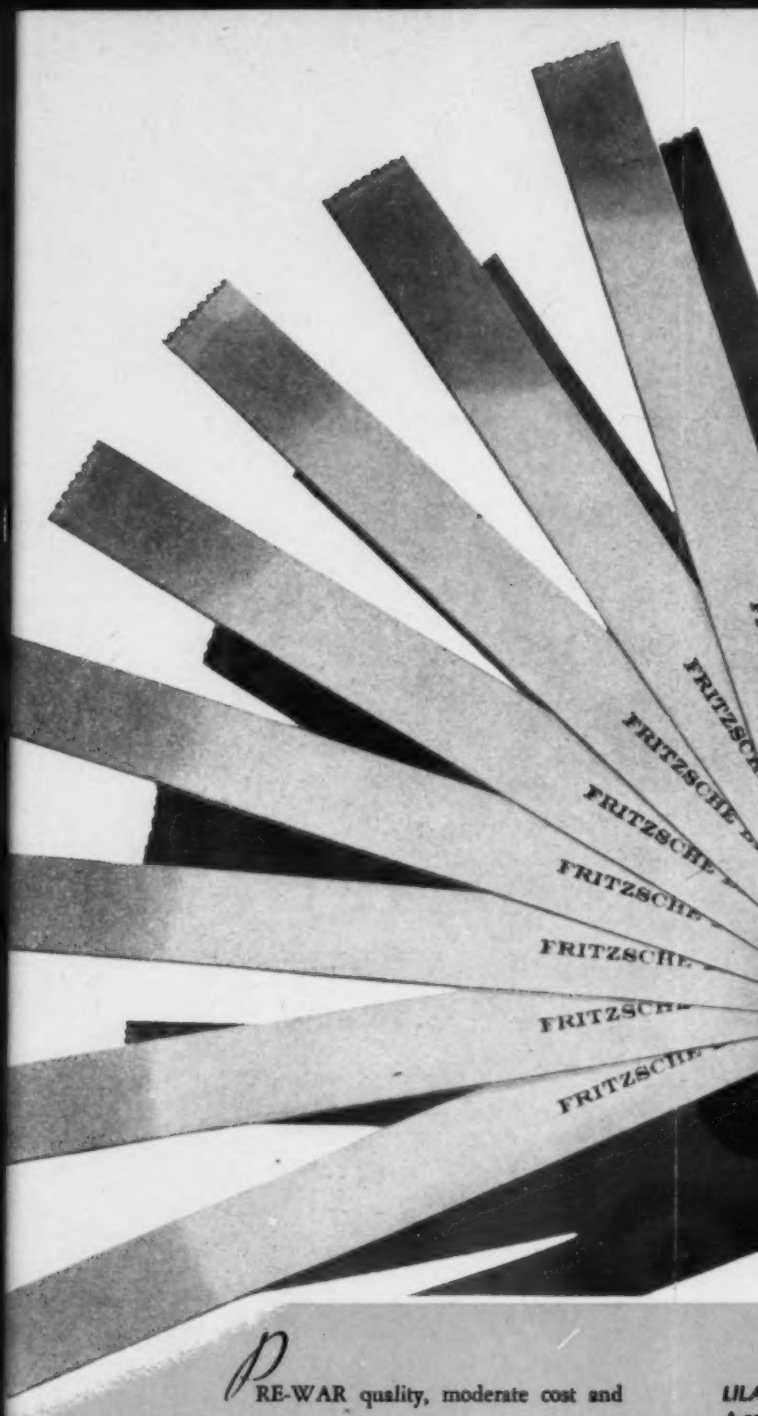

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RNATION

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tonality that is deep, warm
g.

GARDENIA

An interesting and very useful floral base. Lends all the subtlety and sweetness of living gardenia.

HONEYSUCKLE

This delicate base supplies the elusive but delightful fragrance of honeysuckle flowers.

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Recommended as a basis for lily of the valley perfumes and as a sweetener for other floral effects.

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Constituents of a Good Perfume

In the not so long ago, writes Joseph Paul Parentini, General Manager and Chief Chemist of Sutton Cosmetics, Inc., the role of the perfumer was very simple compared to the knowledge of the present day perfumer. He was not much of an originator. His bases were finished perfumes, already in existence in the natural flower oils. (Each one a perfume by itself) various gums, balsams, etc. He would compound various proportions in such a way as to obtain a pleasant note that was harmonious.

What a difference the perfumer's position is today. It is a calling that is considered a work of art, and one that is very complex. He not alone uses the natural oils (when they are obtainable) but he finds that modern science has supplied many synthetic products producing an odor peculiar to itself. The skillful blending and proportional use of these synthetic materials create a fragrance that is new and original.

Perfume chemistry in recent years has made important and impressive progress. We hear of many new discoveries that help to enrich the art of perfumery. Some are very complex in structure. However, we should not let ourselves to think that science has conquered good old mother nature completely. It is to the contrary, should we study natures methods and follow in her footsteps and examples, in order to obtain an effective and unified odor, we would find many interesting facts. To obtain a perfect finished perfume, giving up the odor you desire, it is necessary to provide it with the elements created by nature. Due to the many products that make up these elements, (they number many hundreds) Parentini lists only some of the most important ones:

(1) Alcohols and Terpene Esters:—These are very important elements in most every perfume. They are Terpineol, Geraniol, Nerol, Linalool, Rhodinol, Citronellol. In nature these six alcohols of the terpene class are in existence almost always in some varying degree.

(2) Terpenes:—All natural flower oils contain terpenes to some extent, with the rose an exception. The most important terpene producers are Orange, Lemon, Lime Bergamot, Ylang Ylang, Lavender, Mace, Sage, Peach, etc.

(3) Alcohols of the Aromatic Type:—Cinnamic, Benzyl, Phenylpropyl, Phenylethyl.

(4) Phenols and their derivatives:—Safrol, Iso Safrol, Engenol, Iso Engenol, Methyl Engenol, Methyl Iso Engenol.

(5) Aldehydes; Fatty and Terpenes:—Citral, Citronellal, Hydroxycitronellal, Methyl Nonylacetic, Octyl, Nonyl, Decyl, Undecyl, Duodecyl. These produce a note of freshness and impart an original note.

(6) Aromatic Ketones and Aldehydes:—Anisic, Benzoic, Cuminic, Cinnamic, Vanillin, Heliotropin, Acetophenone, Methylacetophenone.

An important series we must not exclude are the Ionones. These give a delicacy, freshness and volatility to all compositions when they enter into the formulation of a good perfume. Styrax Benzoin, Olibanum and Myrrh are of great interest and should be given more attention.

Australian Tea Tree Oils

Interesting and valuable data on tea tree oils have been prepared by the Council for Scientific and Industrial Research, Australia. The report, dealing with the oils obtained from three varieties; *Melaleuca linariifolia*, *Melaleuca alternifolia* and *Leptospermium Citratum*, is published in the *Bulletin of the Imperial Institute* (42:161, 1944).

When the leaves and terminal branchlets of *M. linariifolia* are subjected to steam distillation, they yield a pale lemon-colored essential oil to the extent of 1.5 to 2 per cent, according to whether the material is old or young growth. The odor of the oil is not easy to describe except perhaps to state that it is very pleasant, with a characteristic myristic or nutmeg odor. The chemical and physical characters of the crude oil are as follows:

Specific gravity:	**0.8927 to 0.8992**
Optical rotation:	**+3.3° to +6.8°**
Refractive index:	**1.4752 to 1.4780**
Ester No.:	**1.3 to 2.7**
Ester No. after acetylation:	**58-82**

The principal constituents which have so far been identified are of very complex character, several not being common to Australian essential oils, viz.: α and γ terpinene, cymene, cineol (16-20 per cent). Δ^1 terpinenol-4, serquiterpenes, etc. These constituents, however, have been shown to possess comparatively high germicidal values when tested against pure carbolic acid using *B. typhosus* as test organism.

The essential oil obtained from *M. alternifolia* bears a close resemblance in general and physical characteristics to that obtained from *M. linariifolia*, being a pale lemon-tinted oil with the same pleasant myristic or nutmeg odor referred to under the other species. Many commercial samples are practically water white. The chemical and physical characters are as follows:

Specific gravity:	**0.8950 to 0.9050**
Optical rotation:	**+6.8° to +9.8°**
Refractive index:	**1.4760 to 1.4810**
Ester No.:	**2 to 7**
Ester No. after acetylation:	**80 to 90**
Solubility:	**0.6 to 0.8 vols., 8 per cent alcohol**
Cineol content:	**under 10 per cent.**

The principal constituents which have so far been identified are of very complex character, but identical with those described under *M. linariifolia*. The complex mixture constituting the crude oil has been found to possess a high germicidal value when tested against pure carbolic acid, using *B. typhosus* as the test organism; being from 11 to 13 times more powerful or effective in destroying these organisms than carbolic acid under similar conditions. The pleasant odor, plus the high germicidal efficiency and non-poisonous properties, have resulted in industrial application of this oil in germicides, solvent, etc., as well as refined uses in medicine and therapeutics. Today, the oil of *M. alternifolia* is being used for surgical and dental purposes, and that of *M. linariifolia* for soaps and perfumery and industrial purposes. The supply of raw material for the production of the oils is practically inexhaustible. Due to wartime conditions, export of tea tree oil to any country has been prohibited. *Leplospermum citratum* is a very attractive lemon-scented tea tree, the leaves and terminal branchlets of which yield a very pleasant and valuable essential oil possessing a strong pleasant lemon odor, modified with that of citronellal. The chemical and physical characters of the crude oil are as follows:

Specific gravity, 15/15°	**0.8792 to 0.8856**
Optical rotation	**+3.5° to +5°**
Refractive index at 20° C.:	**1.4688 to 1.4757**
Solubility in 70 per cent alcohol:	**1 to 1.2 vols.**
Total aldehydes (citral and citronellal):	**75-85 per cent**

The aldehydes consist principally of citral (45 to 50 per cent) and citronellal (35 per cent). The balance of the oil contains the alcohols geraniol and citronellol and their formic and acetic acid esters, sesquiterpenes and sesquiterpene alcohols, and less than 1 per cent of eugenol.

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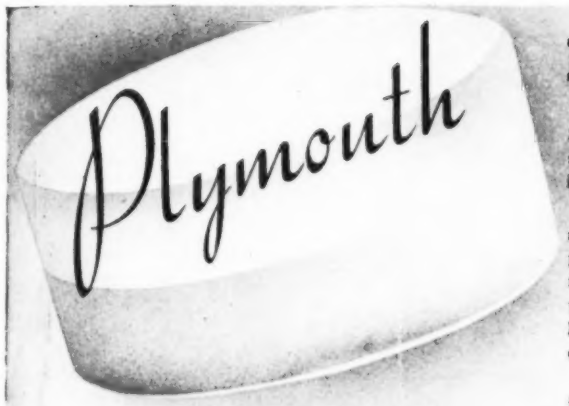

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Compounder's Corner

Analysis of Nail Cosmetics

In a report on the analysis of nail cosmetics, W. H. Naylor (*J. Assoc. Official Agr. Chem.* 27:366, 1944) gives details on the preliminary separation of the non volatile constituents. The following methods have been developed:

Total solids: Run the sample from a sample bottle of the Grethen (or similar) type into platinum dishes containing a precipitant (petroleum benzine, benzene or chloroform) and weigh by difference. Allow to evaporate in a stream of dust-free air (with slight warming if desired). When evaporation is almost complete add more precipitant and break up the precipitate, complete the evaporation and weigh the residue.

Ash: Place the platinum dish containing the solids in a muffle and heat gradually to 550° C. For best accuracy, run a blank on a clear lacquer of the same composition. Nitrocellulose leaves an appreciable ash which will serve for the determination of inorganic pigments such as titanium dioxide.

Separation of nitrocellulose and dye from other constituents: Run 2-3 Gm. aliquots dropwise or in a thin stream into 100 ml. beakers half filled with chloroform. Transfer the precipitate to a tared glass Soxhlet thimble, wash with chloroform; collecting the filtrate in a crystallizing dish. Extract the precipitate in the Soxhlet extractor with chloroform for 3 to 4 hours. Add the extraction chloroform to the filtrate in the crystallizing dish; evaporate in an air current. Take up the residue in chloroform, filter and wash into a tared vessel, allow the chloroform to evaporate and place the dish with a similar tare in a desiccator before weighing. Record as "resins and plasticizers."

Dissolve the residue from the resins and plasticizers through the filter into the original precipitation beaker, using as little acetone as possible. Dissolve the nitrocellulose and dye remaining in the beaker and evaporate the acetone to a very small volume. Extend the solution with alcohol and again evaporate. Add chloroform, transfer the precipitate to the Soxhlet thimble, dry and weigh. If camphor is present in the "resins and plasticizers," the dish containing them must not be heated. After weighing, the camphor and other volatile plasticizers can be driven off quantitatively by heating; preferably in a non-oxidizing atmosphere.

Attempts to separate the nitrocellulose quantitatively from the dyes were unsuccessful. The best hope for quantitative estimation of nitro-cellulose and dye in a mixture appears to be the use of a spectrophotometric method. If the dye can be detected by its absorption spectrum, its concentration can be determined from the extinction or optical density at an absorption peak.

Insect Repellent Patents

Two recent patents covering new insect repellent compositions are of considerable interest. The first, U. S. Patent 2,352,746, issued to L. W. Wasum, is based upon the use of 2-ethyl hexoic acid esters of cyclohexanol and substituted cyclohexanols. Said to be without the strong or otherwise unpleasant odors of other repellent materials and free of smarting effect when applied to the skin, the materials may be used as such for repelling insects or they may be incorporated in solutions, pastes or emulsions. For example an insect repellent lotion may be made by adding 10 to 25 per cent of methyl cyclohexyl 2-ethyl hexoate in ethyl or isopropyl alcohol. An insect repellent skin cream may be made from:

Cyclohexyl 2-ethyl hexoate	**25.0 parts**
Stearic acid	**20.0 parts**
Potassium hydroxide	**0.67 part**
Water	**54.33 parts**

The second series of insect repellent compositions, developed by B. V. Travis and H. A. Jones, is covered by U. S. Patent 2,356,801. It has been assigned to the United States of America as represented by the Secretary of Agriculture. The compositions described may be applied to skin, clothing or other surfaces and are said to be effective in repelling a wider variety of insect pests than any other materials previously known. This effect is achieved by applying the principles of synergism so that a combination of known repellents produces better effects than either one alone.

The three ternary solutions on which considerable work has been done and which have shown particularly good repellent results are those comprising, by percentages, respectively, 60-20-20; 80-10-10; and, 33-1/3-33-1/3-33-1/3, of dimethyl phthalate, 2-ethyl-1, 3-hexanediol and n-butyl mesityl oxide oxalate. All percentages are by volume at 30° C. These solutions are prepared by simple addition and stirring of the ingredients.

Studies on Stretched Hair

In studies on stretched, especially combed hair, and on the effects of aromatic compounds and terpenes on stretched hair, T. Lochte and H. Brauckhoff (*Kolloid-Z.* 107:135, 1944) found that appropriate combing of hair on the head causes, in general, no deformation of the hair. The ends of cut hairs 70-100 mm. long, placed in water, curve in large rolls. A thin iridescent fatty layer on the surface of the water does not deter this movement of the stretched hair. If the stretched hair is placed on a thicker fatty layer, in the form of isolated drops of oil, the hair contracts until it comes in direct contact with water again. Several drops of turpentine oil, mixed with water in a watch-glass, cause smooth straight hair to contract in narrow spirals, fast at first, then slower, and finally intermittently. Xylene, toluene, benzene, the terpenes, and Japanese camphor act similarly to the oil of turpentine. These phenomena are apparently due to surface tension and adhesion forces brought about by the slow penetration of water into the inner portion of the hair. The narrow-spiral curling is a growth condition in negro hair; it may be found in smooth European hair under certain conditions.

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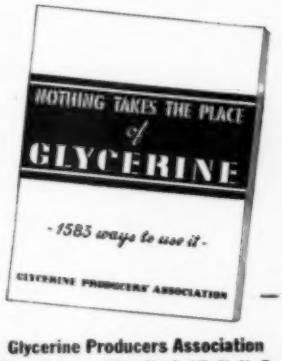

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Antiseptic Rods

Antiseptic rods or pencils offer certain obvious conveniences, hence the formulas given by A. Lannung (Arch. Pharm. Chemi. *50:425, 1943, through* Chem. Abstr. *38:6495, 1944*) *should be of decided interest. To make rods of phenylmercury chloride, he suggests the use of:*

White gelatin	**70.00 Gm.**
Sodium chloride	**1.00 Gm.**
Phenyl mercury acetate	**5.38 Gm.**
Glycerine	**200.00 Gm.**
Red bole	**20.00 Gm.**
White bole	**120.00 Gm.**
Water	**sufficient**

Euflavine may also be used to make similar rods or sticks, as in the following formulas:

Gelatin	**70.0 Gm.**
Euflavin	**1.0 Gm.**
Glycerine	**200.0 Gm.**
White bole	**140.0 Gm.**
Water	**sufficient**

This antiseptic may also be used to make an euflavin cream:

Euflavin	**0.5 Gm.**
Tragacanth powder	**3.0 Gm.**
Glycerine	**16.5 Gm.**
Water	**80.0 Gm.**

Sucrose Octa Acetate

An interesting suggestion for the use of sucrose octa acetate appears in Chemical and Engineering News (*22:2052, 1944*). *A very much better substance used for the denaturing of rubbing alcohol, it is pointed out that the non-toxic nature of sucrose octa acetate should make it an excellent ingredient for harmful materials to prevent their consumption by children. This would apply particularly to common household pills and other remedies apt to be in the family medicine cabinet and the ingestion of which in quantity by youngsters—or adults—would be harmful. The bitter taste of the sucrose octa acetate will act as a deterrent to eating treated materials.*

Liquid Make-up

According to a note in S.P.C. for November, 1944, an American cosmetic concern has presented specifications (B.P.S. 12, 725) for a liquid cosmetic make-up foundation. The main object of this invention is to provide an improved liquid cosmetic make-up foundation which overcomes all of the objectionable features of the prior "grease paint" types of make-up bases and which is so compounded that it may be quickly and uniformly spread over the skin to produce a non-drying thin film thereon on which cosmetics usually employed by women in everyday use can be readily applied. Further objects are to produce a foundation beneficial to the skin and one that does not leave an oily feeling on the surface thereof.

The liquid cosmetic make-up foundation consists of a free flowing liquid composition comprised of a vegetable oil, a skin penetrant, pulverulent texture ingredients, a disbursing agent, a preservative agent, coloring matter and perfume. The vegetable oil which is preferably employed is sesame, although other suitable vegetable oils may be employed.

The pulverulent texture ingredients are preferably zinc oxide and titanium oxide, although other oxides, clays, stearates and talcs may also be employed. A suitable coloring matter may be used when it is desired to produce a shade for the foundation. The skin penetrant utilized is oxycholesterol and the preservative parahydroxybenzoate.

The amounts of the several ingredients may be varied within limits without substantially affecting the beneficial results obtained in the use of the foundation product. For instance, the percentage of the liquid ingredients may vary between 55 to 65 per cent and the percentage of the solids from 32 to 42 per cent.

It will also be noted that the triglycerol stearate is intended to be used for the specific purpose of changing the composition into a free-flowing liquid by reducing the surface tension of the oil contained therein and not for the purpose of making the product water washable. It is also to be observed that in this foundation preparation a larger proportion of oil is used and less solids than in previous liquid cosmetic make-up foundations. This is because the foundation product is designed to be a non-drying composition and if more solids were employed in its composition it would tend to cause the foundation to dry out after application to the skin.

The following typical formula is cited:

Sesame oil	**64 parts**
Zinc oxide	**11 "**
Titanium oxide	**16 "**
Oxy-cholesterol	**2 "**
Para-hydroxybenzoate	**q.s.**
Tri-glycerol stearate	**1 part**
Perfume and coloring matter	**6 parts**

Propyl Gallate vs. Peroxide Formation in Ether

In a study of the protection of ether against peroxide formation, E. Boehm and R. Williams (*Quart. J. Pharm. & Pharmacol.* 17:171, 1944) point out that in contact with air, ether undergoes spontaneous autoxidation. Different theories have been advanced to explain the mechanism of this process; the initial products are almost invariably peroxides, which subsequently decompose yielding a variety of secondary products; viz. hydrogen peroxide, acetaldehyde, vinyl alcohol, acetic acid, ethyl alcohol, carbon dioxide and methane. The nature and amounts of the secondary oxidation products formed in any instance are determined to a large extent by the conditions of the reaction. The presence of these products in ether is most undesirable from a number of considerations; they promote the oxidation of dissolved substances; ether peroxides explode with extreme violence when scratched or when heated above 100° C. and their presence is, therefore, a source of potential danger, finally, when ether is used for anesthesia these substances have an untoward effect on the respiratory organs. The prevention of these oxidation processes is, therefore, a matter of great importance.

Light, although not an absolutely essential factor, is known to have a considerable influence on the speed and course of these oxidative reactions. To minimize the effect of light it has been suggested that ether be placed in a dry bottle, protected from light and stored in a cool place. It should not be presumed, however, that this precaution ensures the complete absence of peroxides over prolonged periods. As an additional safeguard the introduction of an efficient, innocuous and comparatively unreactive antioxidant is to be recommended.

These investigators have demonstrated that propyl gallate is an effective antioxidant for ether and that its stabilizing action compares favorably with those of other well-known inhibitors, which have been suggested as practical antioxidants for ether. Minute traces of propyl gallate have been found to exert a considerable inhibition on the autoxidation of ether, when exposed to diffused light. Anesthetic ether containing 0.0002 to 0.0003 per cent of propyl gallate gives no color or turbidity when shaken with Nessler's reagent. This means that provided anesthetic ether is not exposed to drastic oxidation conditions, such as bright sunlight, 0.0002 per cent of propyl gallate will prevent the development of peroxides for a period at least eight times as long as that for unprotected ether and, moreover, the protected ether will conform to the tests of purity outlined in the different Pharmacopoeias.

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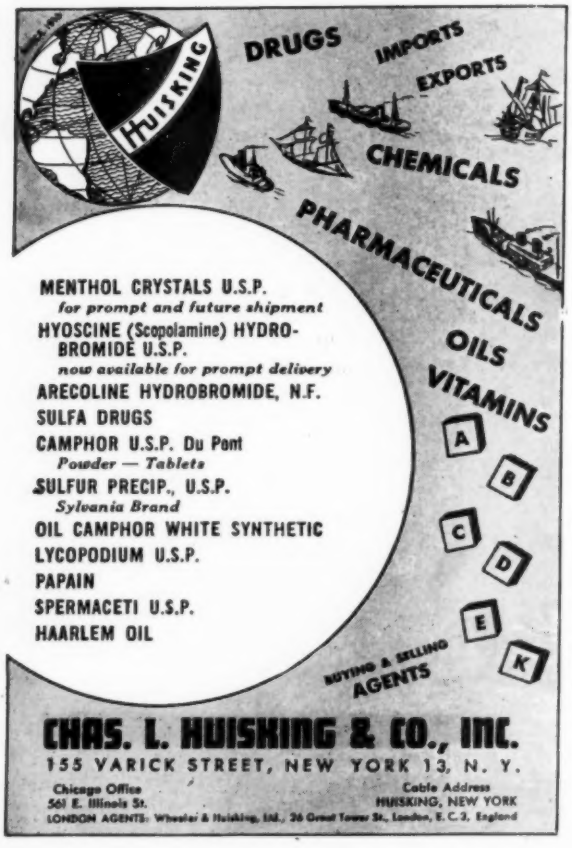

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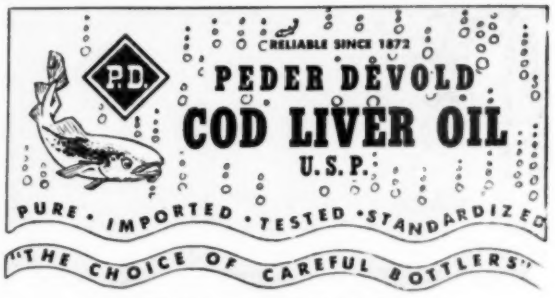

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More Liberal Supplies of Alcohol Promised for 1945; Mercurials Advance With Increase in Metal Price

Drug, chemical, and other industrial users might be given more liberal supplies of alcohol in 1945, and a start was made in this direction by raising fourth quarter allocations with a supplemental 2,000,000 gallons. As a result of the improved alcohol situation generally and the use of more petroleum materials for synthetic rubber in place of alcohol, additional quantities will go to drugs, pharmaceuticals, foods, candies, flavoring extracts, vinegar, toiletries and cosmetics, mouth washes, oral antiseptics, adhesives, photographic materials, duplicating inks, brake fluids, others whose use of ethyl has been under restrictions. More alcohol is being supplied for rubbing compounds but existing controls governing the sale of C_2H_5OH for this purpose remain in effect.

The War Production Board's Chemicals Bureau has been encouraged sufficiently by the improvement in the alcohol situation to declare that the "most critical" phase of the alcohol program is now over. Requirements for 1945 compared with previous war years, in terms of 190 proof alcohol, are now estimated as follows:

	Millions of Gallons			
	1942	1943	1944	1945
Synthetic rubber	....	126.0	333.0	228.0
Direct military and Lend-Lease	71.2	102.9	90.0	100.0
Indirect military and civilian	128.0	147.9	161.4	180.0
Anti-freeze	30.0	50.8	30.0	40.0
Total	229.2	427.6	614.4	548.0

We are also substantially increasing facilities for the recovery of by-product feed materials. Capacity for this purpose has been raised to recover 835,000 tons of feed annually from grain as compared with pre-war dried feed recovery of about 400,000 tons annually by grain alcohol and beverage plants.

In 1939, the year preceding the war, 320,000,000 gallons of blackstrap molasses, or 21% of world supplies, were available in the United States for the manufacture of alcohol and other products, and only a small percentage of grain was employed in the distillation of pure grain alcohol for medical and pharmaceutical uses aside from beverage alcohol. Other molasses uses were in the manufacture of cattle feeds, the production of yeast, vinegar, acetone, butyl alcohol, citric acid. In our last peace year, 1941, ethyl alcohol production amounted to 155,934,000 wine gallons, and of this total 109,397,000 gallons, or 70.1% were obtained through the fermentation of molasses. The remainder was derived mostly from grain and ethylene gas.

DECEMBER PRICE CHANGES

UP

Goldenseal root 25c
Mercury metal $17
- Calomel 28c
- Corrosive sublimate 24c
- Iodides 20c
- Red Precip. 30c
- White precip. 26c

Wahoo bark of tree 3c

DOWN

Clove oil 5c
Dandelion root 3c
Ergot 20c
Menthol, Nat. $1
Rhatany root 1c
Saffron Spanish $3
Tonka beans Angostura 50c
Vanilla beans, Bourbon $2.25

• **Prices quoted in this section were current on the first of this month.**

Mercurials Up

Since there was little or no mercury available on spot the current price jumped to $135 per flask from the $118 price previously reported in this column. In view of the strength in this raw material it was only natural that producers of mercurials should advance prices. The new schedule for calomel is $2.16 per pound; corrosive sublimate $1.68; red precipitate $2.47; mercury oxide yellow $2.64; white precipitate $2.24.

For the long pull, however, there seems to be some difference of opinion in the trade. Some trade factors are inclined to be bearish because of the tremendous quantity of metal held by the Metals Reserve Corporation. Since estimates place the stockpile at around 100,000 flasks some feel that when current market demand is satisfied, much lower prices are likely to be witnessed.

Also of interest in the mercury market was a report that 3,000 flasks of mercury were offered from Spain at a price which amounted to $197. This is under the Cartel price which is said to be $250.

Penicillin Prices

Penicillin is appearing in larger quantities as a result of expanded production. Prices are now quoted to hospitals at from $2.40 to $2.60 per 100,000 units. Quotations on Government business is now $1.50.

Orders for penicillin for the Union of South Africa Defense Force have been placed. The supply is being arranged through the South African Supply Mission in Washington. It is understood that 10,000,000 units have already been shipped by airmail, and negotiations are in progress to procure 1,200,000,000 additional units during the twelve months ending March 31, 1945. Only a limited number in the armed forces can, however, be treated with current supplies. Packing is said to be

(*Continued on page 111*)

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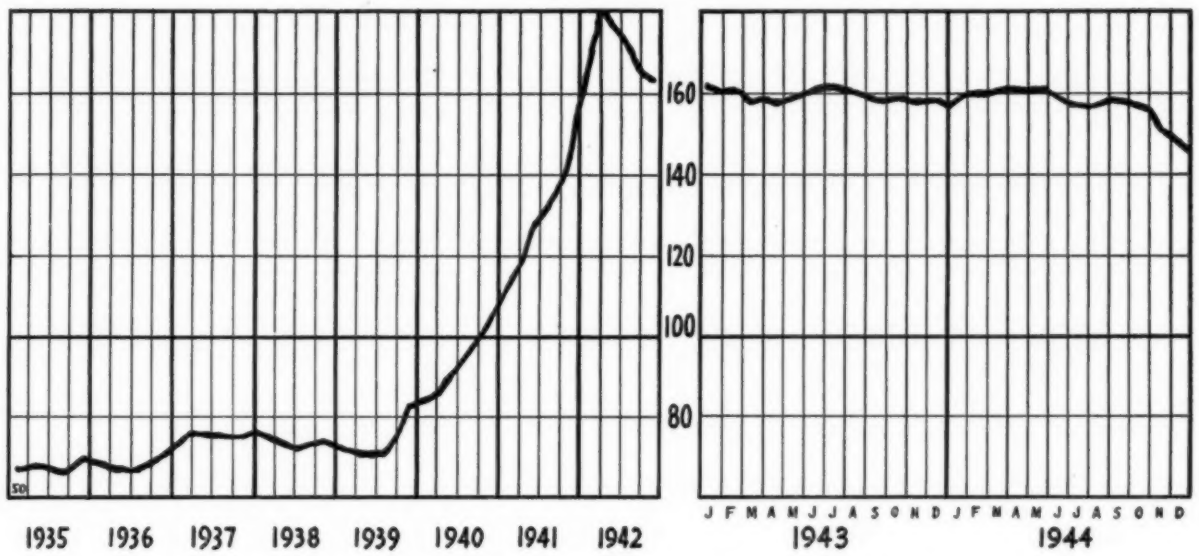
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for December declined from 148.2 to 145.0.

Essential Oil Market Enters New Year With Stocks at Low Level; Supply of Floral Oils in France Reported Small

In the main the essential oil market was a quiet one which entered the new year with very small stocks and exceptionally firm prices in most materials. Floral oils now in France may be used in the manufacture of finished products instead of being exported to the United States and other countries. The supply of floral oils according to reports from authoritative sources is small, and it is quite likely these articles will be readily absorbed by perfumers and other manufacturers abroad. Considerable difficulty is likely to be encountered in obtaining sufficient labor, however, and transportation facilities may prove a handicap.

Aromatic chemicals are becoming increasingly difficult to obtain because of the manpower shortage and difficulty in obtaining certain major basic materials.

Mint Oil Production

The Bureau of Agricultural Economics, Department of Agriculture, reported 1944 production of peppermint oil to have been 1,112,000 pounds. This is 78,000 pounds more than the bureau's estimate in August, but 32,000 pounds less than the September estimate. Peppermint acreage was 370 acres more than expected. Indiana production of peppermint exceeded expectations but that in Michigan fell below estimates. California was also sharply down in actual production but Oregon far exceeded expectations.

What is likely to be the final crop report issued on spearmint oil this year by the Bureau of Agricultural Economics stated that 1944 production was 228,000 pounds, which was 10,000 pounds less than the bureau's August estimate, and 16,400 pounds more than the estimate made in November. Spearmint acreage agreed with that announced in September.

Bergamot Scarce

Little or no oil was on the open market. Consumers bought up the recently imported 90,000 pounds so promptly that there is not much left for open market trade.

Eucalyptus Tight

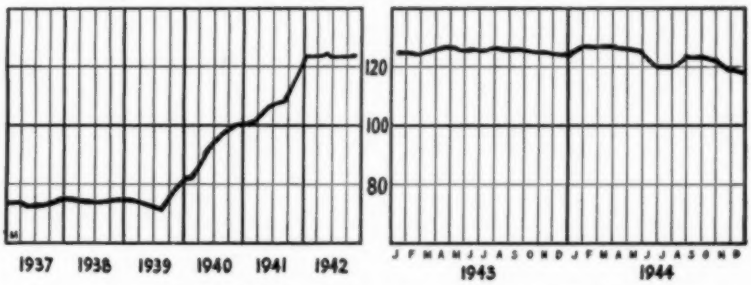
Stocks continued short and are likely to remain so until such time as Australia, Spain, or, possibly Brazil can offer much more oil than seems possible at the present time. In most respects the spot market is a nominal affair.

Lavender Report

Dealers and importers keenly await information regarding the situation in lavender oil in France. The districts of main cultivation are the Alpes-Maritimes, Vaucluse, and Basses-Alpes. The picking time for flowers is July to September. It is said that occupying Germans caused increase in production and there is some chance that the French have been able to divert or prevent destruction of oil that was destined for German controlled factories in France and Germany.

(*Continued on page 111*)

15 Medicinal Chemicals—Weighted Price Index 1926=100.



The medicinal chemicals index declined from 123.9 to 122.9. Menthol was lower at $13, mercury was higher at $135.

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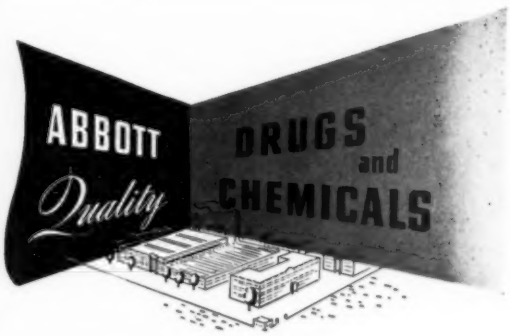

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FINE CHEMICALS

(*Continued from page 107*)

in ampoules containing from 10,000 to 1,000,000 units, and injections are given in serious cases every three to four hours, often over a period of days. It is not unusual for some hundreds of thousands or even a million units to be injected before a patient responds to treatment, it is pointed out. Adequate supplies for civilians in South Africa are unlikely for a long time to come.

Glycerin Stocks Ample

While approximately 90,000,000 pounds of glycerin will be in the hands of producers, refiners, and consumers at the close of the year, which is equivalent to a six months' supply, crude material of fair quality is reported meeting with a ready demand, and, according to reports, there is another Lend-Lease inquiry in the market for 1,400,000 pounds of dynamite. The inquiry calls for 800,000 pounds to be delivered along the Atlantic Coast in January and 600,000 pounds to the Pacific Coast in February.

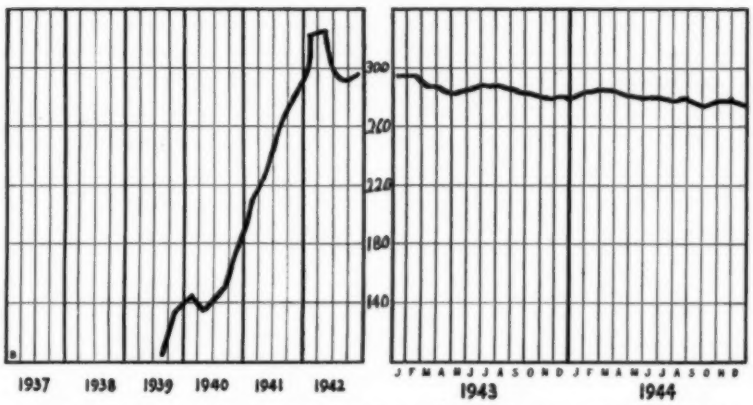
Although approximately half of the world's glycerin supply is in the United States, producers are not concerned over their future market. There is likely to be a tremendous increase in consumption of glycerin in the coming post-war period. Despite the unfortunate financial and economic conditions that exist in many foreign countries, vast quantities of glycerin will be urgently needed following the war for drugs, pharmaceutical preparations, and many various industrial uses.

At home more and more glycerin is being used in plastics. In view of the rapid strides being made, the plastics industry promises to be one of the major domestic consumers of glycerin in the future.

Menthol Down

Brazilian menthol quotations have fluctuated considerably under the influence of crop news and other factors, although at this writing the spot market is slightly firmer at $13 a pound. This represents a decline of $1 a pound since our last report. The market reached its low when it was reported that bids were made at $12, although the goods in this market cost $13 or more. Some parcels are said to be in the hands of speculators, however, who are particularly anxious to dispose of their holdings realizing that new production is about to start in Brazil and that the new material is already being offered for January shipment at prices well below those quoted a year ago.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index declined from 276.2 to 275.3. Ergot was lower at $1.30.

Sulfa Drugs Down

A sustained reduction in production of sulfa drugs is revealed in a statistical report covering the period January to September, 1944, by WPB. In January, 1944, production amounted to 653,798 pounds. In the following months production steadily declined until by June it had reached the low point of 234,014 pounds. Following a brief return to a higher level output again fell in August and in September output amounted to only 152,328 pounds. Consumption likewise declined, but stocks while they fell off, gave the least evidence of this gradual decline. Increased output of penicillin is no doubt responsible for the decline in the demand for the sulfa drugs.

ESSENTIAL OILS

(*Continued from page 109*)

Lemongrass Firm

Stocks of lemongrass oil gained to the extent of 107,476 pounds but practically all of it is on order for manufacturing consumers. Prices have hardened considerably at the $1.50 per pound level.

Miscellaneous

Ceylon citronella oil appears to lean toward the weak side. Recent price movements in the article have not proved sufficient to make it any more interesting to major users, particularly soapmakers. Lemon oil is firm. There is an ample supply of orange oil in this market. Although sellers of Brazilian oil are generally asking $1.10 a pound for spot goods it is understood that some parcels may be had at a shade under this figure. Such articles as sandalwood, patchouli, and bois de rose are particularly scarce on spot. Anethol is in a tight position. Current quotations ranging from $3 to $3.25 per pound are entirely nominal. Some close oil distillers are offering goods out of spice to arrive in January at $1.60 a pound. The spot position remains very firm. Oil that arrived on the steamer carrying a large tonnage of vanilla beans is earmarked for immediate consumption. The spot market for vetiver oil continued to show signs of competition without the open quotations being reduced. However, orders in hand stood a chance of being filled at shaded prices.

CRUDE DRUGS

Business in the market for medicinal botanicals was very quiet during the trading period under review. Sales volume was low and consumer interest was negligible. This situation, however, is characteristic of the crude drug market at most year-ends.

Botanical drug dealers, however, look into the coming year with somewhat mixed feelings. There is reason to believe that seasonal articles will show a rise in demand shortly after the turn of the year and the facts in hand suggest that such demand could become rather substantial in size. Because stocks of most materials are moderate to very small, substantial expansion in request would find prices rather sensitive. To this may be added the fair prospect for demand to cover Spring and early Summer requirements.

Gums In Supply

Stocks of gum aloe gained to the extent of 508 cases. Undertones in prices, however, were steady. Further additions to spot stocks of gum karaya were noted. About 1,598 bags arrived here and since the market lacked much buy-

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ing activity, prices showed some tendency to ease. Stocks of olibanum gum were up by 50 packages. Prices remained steady since most of the gum had been earmarked for probable consumption.

Senega Production Down

Canadian reports stated that in the last few years, Canadian production of senega root has declined from a level of from 300,000 to 400,000 pounds a year to only 100,000 to 150,000 pounds.

Labor shortage is the assigned reason. The plant is found for the most part in the Park Belt area of the prairies, especially in Saskatchewan. Attempts to cultivate it in Manitoba have not been successful. Collection season by Indians and farmers is April to November. The market center is Winnipeg, where shipments are handled by five merchants. Exports to Britain were suspended from early 1942 until August, 1944, except one small one in February, 1944. One Winnipeg dealer is reported carrying sizable stocks against the time when export shall be generally resumed.

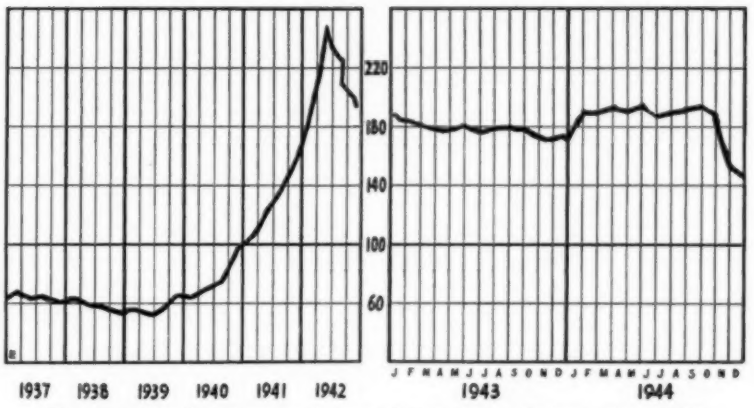
Vanilla Arrives

Bourbon vanilla beans in the amount of 2,045 cases have reached this country and deliveries against existing contracts are being made at the range of $7.75 to $8.50 per pound, according to quality. Local statements indicated that the receipts of importers—being replacements of goods lost at sea—have been but a percentage of the replacement beans bought in the primary market. The proportion of top-quality beans runs comparatively low—nowhere near the usual 50 per cent of firsts formerly a part of every contract with the source of supply. Practically nothing will be available for new orders. Reports indicate that substantial quantities were sold in the islands to France. Also, the new crop outlook is not favorable as to quantity. The consensus is that prime qualities of Bourbons are bound to be short, but a fair supply of ordinary beans may be expected in the future.

Miscellaneous

Spot prices on goldenseal root show a further advance. Inquiries continue in the market but the demand is limited because of small stocks. Trade in Spanish saffron is quiet and spot prices show a further decline to $38 a pound. The new and lower quotation is rather close to replacement costs, however, so it is not likely the market will go much lower. Quotations on Mexican sarsaparilla root are largely nominal because of a shortage of spot goods. Carnauba wax is featured by a strong tone. Some importers report increasing difficulty in locating offerings in the primary center. While the coming crop is expected to be fairly large it is said that it has been delayed because of unfavorable weather conditions. Bloodroot, buckthorn, lobella herb, and elm bark are all scarce. With shipping prices on papain having advanced from $1.35 a pound to about $1.85 within a relatively short period, indications are that spot prices will be higher.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index was lower at 147.1. Clove oil dropped to $1.70.

Clove Situation, Zanzibar

The Zanzibar Clove Growers' Association Market Review for the second quarter of 1944 stated that the coming clove harvest in Zanzibar is not likely to be large, and that in all probability stocks will not become unmanageable in the next.

During the quarter April 1 to June 30, 1944, supplies amounted to approximately 2,000 short tons. For the seasonal year July 1943 to June 1944, supplies amounted to approximately 18,000 short tons, and exports to 6,500 tons.

Clove-oil production was said to be insufficient to meet current demands.

Exports From Ceylon

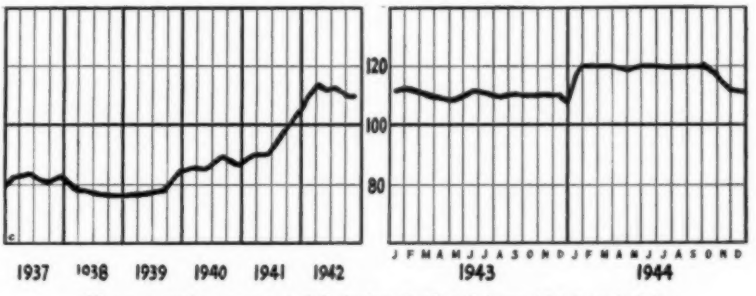
Both the quantity and value of citronella-oil exports from Ceylon were higher during the first 9 months of 1944 than in the corresponding period in 1943. Demand tended to slacken slightly during the third quarter.

During the first 9 months of 1944, as compared with the corresponding period of 1943, the quantity of cinnamon-leaf-oil exports declined, but the value increased, reflecting the rise in prices. The volume of cinnamon-bark-oil exports, which have always been rather small, doubled, and the value trebled.

Shipments From Reunion

Exports of essential oils from Reunion during the third quarter of 1944 were as follows: Vetiver, 10,789 kilograms, valued at 7,667,813 francs; geranium, 19,582 kilograms, valued at 6,569,034 francs; and ylang-ylang, 662 kilograms, 314,590 francs.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index declined from 116.1 to 115.7. Menthol was lower by $1 a pound.

Industry's Books

Trade-Marks Registered with the American Drug Manufacturers' Association and American Pharmaceutical Manufacturers' Association, January 1, 1944, 102 pp., American Drug Manufacturers Association, Washington, $2.

This list contains the trade-marks used by members of the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association, January 1, 1944. It includes many names which are not subject to exclusive ownership. The purpose of this list is to give information which will be of service to members in the preliminary stage of the adoption of new trade names.

The Drug And Cosmetic Industry, by Clare Olin Ewing, B.S.,M.S., Chief Chemist and Associate Director, Department of Research and Control, United Drug Co., 24 pp., paper, Bellman Publishing Co., Boston, 50c.

This monograph is one of a series of seventy-five occupational booklets used in connection with guidance activities wherever general counseling work is conducted and for individual reference purposes in the choice of a career. The manuscript for this Monograph was written by a qualified expert and was carefully designed to supply the following factual information under normal conditions: Personal qualifications required for engaging in the work. Scholastic training needed. Complete analysis of employment opportunities. Remuneration received. Chances for advancement. Frank statement of advantages and disadvantages. Possibilities for both men and women in the vocation or profession.

The Chemical Industry, by Josephine Perry, 128 pp., Illus., Longmans, Green & Co., New York, $1.75.

This is the eighth title of the America At Work series. It is a survey of the American chemical industry, first sketching briefly the history of chemistry from its use in ancient Egypt to the present and offering a background for a scope of the field today and a glimpse into the future. Such phenomena as "compounds," "elements," "electrology," which teachers have difficulty in making students understand, as well as the industrial acids, gases, and the synthetic products—nylon, plastics, and dyes—are explained in a simple and interesting way.

Virus Diseases In Man, Animal And Plant, by Gustav Seiffert, 332 pp., Philosophical Library, New York, $5.

This is a survey and report covering the major research work done during the last decade on this subject. The most important literature is covered, especially foreign. The aim of this book is to furnish an introduction to the many who wish to occupy themselves more closely with the virus problem, to make possible by references to literature further penetration into the subject, possibly at the same time to indicate to independent work by mentioning many open questions. For this reason a section about methods is added.

The Manufacture of Vitamins & Hormones (In German), Three Volume Series, Soft Cover binding, Advance Scientific Publishers, Inc., New York, set $8.

These books discuss in detail the structural chemistry, physiological properties, isolation from natural sources, synthetic methods, production techniques, and patent surveys. They should prove essential to biochemists, pharmaceutical chemists and drug manufacturers. Volume I—Resume of Vitamin & Hormone Research, 138 pages, is by H. Brederech & R. Mittag, published 1938, republished 1944. Volume II—The Production of Vitamins, 205 pages, is by Frank Seitz, published 1939, republished, May 1944. Volume III—The Production of Hormones, 162 pages, is by Erick Vincke, published 1938, republished, May 1944.

The Technique Of The Terrain, by H. A. Musham, 228 pp., Illus., Reinhold Publishing Corp., New York, $3.85.

This book is intended for all those who may require a basic understanding of the principles of map construction and interpretation: Army and Navy officers, young men anticipating military service, scoutmasters, surveyors, explorers and students of military geography. It clearly and simply explains how to record terrain correctly; the use of relief, indications of distance and direc tion, coordinates, conventional signs, the relation of maps to logistics and to aerial photography. The text is profusely illustrated and the explanations are accompanied by selected problems.

Bacterial Infection, With Special Reference to Dental Practice, by J. L. T. Appleton, B.S., D.D.S., Sc.D., Professor of Bacteriopathology and Dean, The Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, Third Ed., Revised, 498 pp., Illus., Cloth, $7.

This work clearly summarizes the clinical and laboratory experience necessary to an adequate understanding of infection. In the preparation of this third edition, the revision has been most thorough, and the text has been clarified, shortened, made more comprehensive and brought fully up-to-date. The discussion of Surgical Antisepsis and Asepsis now forms a separate chapter. The earlier chapter on the Classifications of Bacteria has been expanded to cover the Pure Culture Study of Bacteria. The subject of inflammation has been removed from the earlier chapter and is accorded a chapter by itself. Entirely new chapters have been devoted to Ecology of the Microorganisms of the Mouth, Actinomycosis and Osteomyelitis. The chapter on Oral Hygiene presents the goal and consummation of all that preceded it.

Medicine And The War, Edited by William H. Taliaferro, 193 pp., The University of Chicago Press, Chicago, $2.

This volume describes in nontechnical language some of the important work that is being done today in connection with the medical care of the armed forces. After a brief review of the history of war medicine, the topics dealt with include: food, the basic fuel for the human part of the war machine; chemotherapy, the wonder science of modern medicine; malaria, the most important infectious disease in the present war; the dissemination of diseases and disease-carrying insects by modern rapid transportation; avaition medicine; brain injuries; psychiatric disorders; surgical shock, and chemical warfare.

A Concise Pharmacology And Therapeutics, by F. G. Hobart, Ph.C., Head of the Pharmaceutical Department, Westminster Hospital, and G. Melton, M.D., Senior Physician, Dudley Road Hospital, Birmingham, Second Ed., 168 pp., Leonard Hill Ltd., London, $3.

This volume is intended to present concisely, but in sufficient detail, the pharmacology of the more important drugs used in the British Commonwealth and the United States. In this edition increased attention has been given to those therapeutic considerations which the clinician is most likely to appreciate. This policy, together with the need for extensive references to the many new and important drugs which have come into use within the past few years, has necessitated an almost complete rewriting of the text. This volume intends mainly to discuss the action of drugs in relation to practical therapeutic considerations.

Fundamentals of Chemistry And Their Applications In Modern Life, by Monroe M. Offner, Instructor in Chemistry, Abraham Lincoln High School, New York, 408 pp., Illus., The Blakiston Co., Phila., 69c.

This is a simple explanation of the basic principles of chemistry. Part One consists of three sections. Section 1 introduces the reader to such subjects as elements, mixtures, atoms, electrons, formulas, solutions, acids, alkalies, salts, etc. Section 2 describes all the elements which are non-metals; oxygen, chlorine, sulfur, carbon, etc., and such organic substances as alcohol, ether, cellulose, etc. Section 3 deals with the metals: sodium, calcium, iron, aluminum, copper, mercury, chromium, manganese, neon, radium, etc. Part Two deals with Chemistry in Modern Life, giving absorbing information about such vital topics as plastics, nylon, vitamins, sulfa drugs, penicillin, new metal alloys, new uses of glass, synthetic rubber, and other chemical marvels of our age. The book will appeal to those with little or no previous acquaintance with the subject.

Fermente Hormone Vitamine, by Robert Ammon and Wilhelm Dirscherl, 451 pp., J. W. Edwards, Ann Arbor, Michigan, $11.50.

This work was originally published in Leipzig in 1938 and is issued here by authority of the Alien Property Custodian under license. The book is very well reproduced and the subject matter is covered in an entirely adequate manner. The distribution of such German technical works can be recommended in that it makes available to chemists of this country the best of the German research at a time when it can prove most valuable. Published by the lithoprint process this latest in the reprint series of German books should prove of value to all chemists interested in this subject who can read the original German text.

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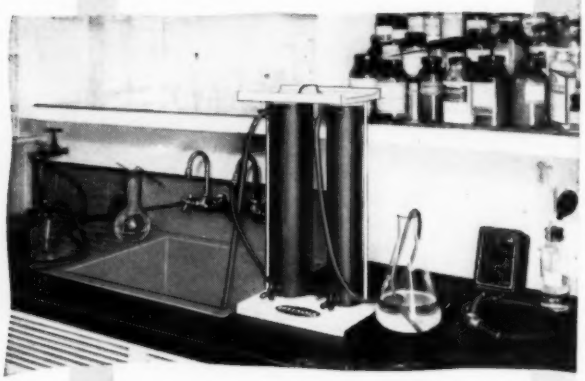

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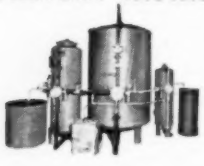

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Consumer Complaints

(*Continued from page 35*)

irritation which is occasionally produced by a 10% ointment is in some cases due to warm weather. (2) As a matter of fact Gibbs reported that he obtained the same degree of irritation during the summer months with plain petrolatum. An examination of Fig. II, which gives the monthly average of complaints for the past 17 years shows an interesting confirmatory result, for here we find a much higher incidence of complaint in the hotter months. Our analysis of complaints, thus far, appears to justify the changes we have made in the product itself, in the instructions for use, and in the manner of exploitation. This might be referred to as quantitative analysis. We have also made a qualitative analysis of our complaints.

When we receive a complaint we send the customer a questionnaire so designed that her answers give us a relatively complete picture of her use of our product. Fig. III shows an analysis of such replies. The upper shaded area shows those who did not reply to our questionnaire, and consequently a high percentage of them may be viewed with suspicion. The upper clear area represents users who had normal results. We believe that some of these may also be discounted as there is always the temptation of another package gratis. The next shaded area shows users who reported the action of the product weak, while the lower clear area pictures those who reported the action strong. This last group varied between a high of 36 in 1933 and low 2 in 1942, while in 1943 we received 7, or one to every 324,646 packages sold. (3/10,000 of 1%). Over this 17 year period we have made 337 cash refunds and sent 913 free packages—a total of 1250 adjustments, from the sale of over 20 million units.

When we find that we now receive only 1 complaint from every 90,986 packages distributed, and when we are reasonably certain that some of these are fraudulent, being from that ever present group who want something for nothing; we are encouraged to believe that our efforts have been properly directed and that our product is functioning reasonably well, and is causing the minimum amount of disturbance that can be expected of any agent possessing a measurable activity. It seems doubtful that any other comparable product will be associated with a smaller percentage of complaints as there is always a certain number of individuals who fail to receive satisfaction from any service or product.

When we examine the sales curve in Fig. III we note that sales have increased since the passage of the Federal Food, Drug & Cosmetic Act in 1938. Several factors, such as general war time prosperity, more intensive sales and advertising programs, have contributed to this result. One important factor that becomes more apparent to us each year is the increased confidence on the part of the consumer for properly made and advertised products. In the language of diplomacy, we manufacturers are not always in com-

plete accord with the Food and Drug Administration, but let us give the devil his due. In our opinion a large part of this increase in consumer confidence is due to their activities.

SUMMARY

1. Examination of a complaint and testimonial file covering a period of 17 years has been undertaken.
2. Over a period of years the gross number of complaints has fallen materially and is now less than one for 90,000 packages sold.
3. A serious percentage of all complaints is subject to critical examination.
4. During the 17 year period the major changes in formula, claims and directions, which were made in an effort to improve the value of the product, have resulted in increased consumption.
5. The complaint file has shown itself to be a source of information of an experimental type, and a well kept file is to be regarded as a valuable asset.

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2. Gibbs, O. S. — Shanke, R. — Pond, P.— Hausman, G. H.— Arch. Derm. & Syph. *44*, 862-872, 1941.

Baby Products

(Continued from page 39)

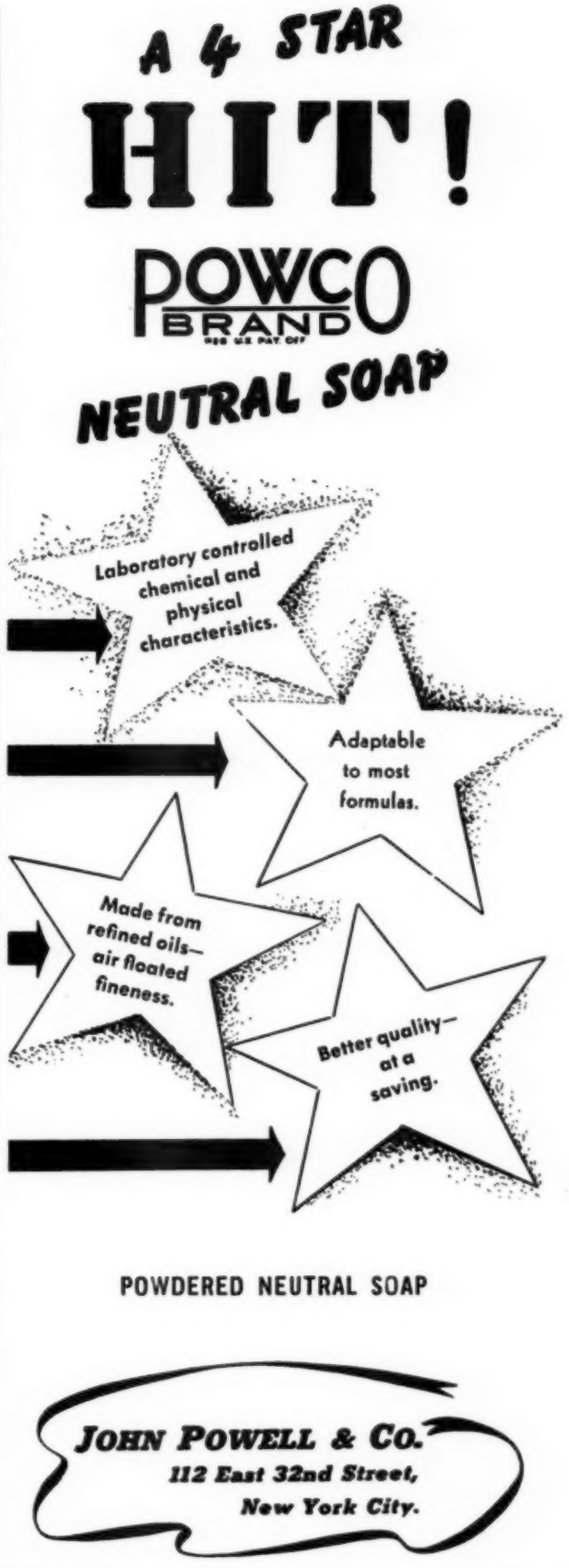
Although the addition of oil soluble antiseptics is claimed to help prevent skin infections, their value is debatable. The evaluation of oil-soluble antiseptics presents definite difficulties and unless an agent is chosen with care, the antiseptic may cause irritations more severe than the conditions they are supposed to prevent. It is known, for example, that the quinoline derivatives are responsible for some cases of skin irritation.[7] Among the antiseptics commonly used are hydroxyquinoline base, benzoate or sulfate; chlorothymol; chlorobutanol or para-chloro-metacresol. Occasionally, more than one of these substances is used in the same preparation.

Many examples of antiseptic-containing baby oils are available. Lascoff,[9] for example, suggests the following slightly perfumed, antiseptic oil:

Olive oil	**60.0 parts**
Oil of rose geranium	**0.3 part**
Oxyquinoline base	**0.6 part**
Liquid petrolatum, to make	**500.0 parts**

Another antiseptic, chlorothymol, is employed in Belanger's[10] formula for a baby oil. Said to be useful on babies to help overcome and prevent skin dryness, cracking and peeling and to help protect against rashes and irritation, it is suggested that the following preparation may be used by adults as an application for the relief of sunburn and other minor burns, for chapped, dry or cracked skin, or as an application to the scalp to loosen dandruff before shampooing:

Olive oil	**4 oz.**
Chlorothymol	**30 gr.**
Oil of rose	**30 min.**
White mineral oil, to make	**24 oz.**



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If a somewhat heavier product is desired, the following "Infant Anointing Oil," given in a semi-official source,[11] should serve:

Sesame oil	**100.0 cc.**
Olive oil	**100.0 cc.**
Heavy liquid petrolatum, to make	**1,000.0 cc.**

It is interesting to note that in many hospitals it is common practice to sterilize the baby oils prior to use. In this connection a suggestion made by Storms[12] is worth repeating. Pointing to the fact that the common method has been to oil the baby with cotton pledgets, he feels that it is more desirable to apply the oil directly by means of individual half-ounce bottles, containing a single application of oil. These bottles may be autoclaved after use and filled with oil from a larger container.

From time to time various emulsion preparations have been devised to replace the use of oils on the skin of new-born infants, but apparently with little success. According to Flack and Clarke,[5] a preparation of the lotion type for such purposes would advisedly have a pH reaction approximately neutral or slightly acid to ascertain that the "acid mantle" on the infant's skin remain undisturbed. In addition to meeting the pH requisite, such a lotion must also be stable, with good emollient properties, smooth texture and general good appearance. Such an emulsion, it was felt, would be superior to an oil for several reasons. Debris to be removed from the skin of new-born infants is, in part, water soluble and, in part, oil soluble, hence an emulsion could be expected to serve the dual purpose of removing both types of debris simultaneously. From a theoretical viewpoint, a water-in-oil type emulsion seems more desirable since the greatest part of the debris to be removed is oil-soluble.

After considerable study and testing in the maternity department, these workers developed the following lotion, which has subsequently been accepted for inclusion in the "New York Hospital Formulary:"

Stearic acid, U. S. P.	**4.6 per cent**
Lanolin, anhydrous, U. S. P.	**6.3 " "**
Liquid petrolatum (85 viscosity)	**8.8 " "**
Sesame oil, N. F.	**1.1 " "**
Olive oil (or substitute)	**1.1 " "**
Triethanolamine	**1.7 " "**
Alcohol (95%)	**1.1 " "**
Distilled water	**75.3 " "**

To make this lotion, heat the stearic acid until melted, add the lanolin and the mixed oils without further heating. In another vessel, bring the triethanolamine-water mixture to 70° C. Allow the stearic acid-lanolin-oil mixture to cool to about the same temperature and then add to the aqueous phase slowly and with constant agitation by means of a mechanical mixer. The agitation procedure should be such as to avoid the inclusion of air into the emulsion. The use of small blades on the mixer shaft is of value in this connection. Agitate for three minutes, allow to cool and add the alcohol with stirring.

Using a technic similar to that employed with oils, the new baby is sprayed with water if necessary. It is then cleaned completely with the above lotion; no special effort being made to remove the vermix. Daily care consists simply of cleaning the infant with some of this lotion applied on a cotton ball.

Of related interest is a new antiseptic baby lotion employed by Fischer[13] for the prevention of impetigo neonatorum, epidemico of which have sometimes been a major problem in hospital nurseries. Although the full formula is not given, the lotion contained the following active ingredients: 0.16 per cent of cetyl trimethyl ammonium bromide as the antiseptic, plus boric acid, lanolin and mineral oil. The water-soluble antiseptic, cetyl trimethyl ammonium bromide, is miscible with body secretions and is said to have detergent and surface tension lowering properties which permit more intimate contact with the skin and skin bacteria than is possible with water insoluble antiseptics in an oily vehicle. The inhibitory action of this antiseptic lotion on the organisms of impetigo neonatorum appears evident by the fact that no cases of this disorder appeared during a period of two and one-half years of study.

Although frequently used during the early months of an infant's life, baby creams really come into their own on discontinuance of baby oils. Such baby creams may be used instead of oils, but in the main they find their most frequent application is in cases of diaper rash, prickly heat or other mild skin irritations where they provide comfort and aid in clearing the condition. Kalish[1] is of the opinion that the presence of water in such products is disadvantageous and that emulsion creams are unsuitable. The baby creams he recommends are somewhat similar in composition to liquefying cleansing creams; the following being an example:

Mineral oil	**59.0 per cent**
Lanolin	**5.0 " "**
Cetyl alcohol	**3.0 " "**
Petrolatum	**25.0 " "**
Paraffin	**8.0 " "**

Nonetheless, baby creams containing substantial quantities of water and water-miscible ingredients do enjoy a high measure of popularity. Indicative is a baby skin cream containing:[14]

Cetyl alcohol	**20.0 parts**
Mineral oil	**15.0 "**
Lanolin	**5.0 "**
White petrolatum	**50.0 "**
Glycerine	**10.0 "**
Rose water	**60.0 "**
Perfume	**sufficient**

Although scalp oils have not commanded any large amount of attention during recent years, they are coming in for increased interest as a result of crowded living conditions and often inadequate nursing help in hospital nurseries. Then, too, many young mothers are afraid to shampoo the soft head of an infant for fear of injury. The result may be the appearance of a seborrheic dermatitis of the scalp, more commonly known as

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What it is

SORBOTEX 301 is a white, ointment-like odorless mixture of higher fatty alcohols and esters in a hydrocarbon base. It does not contain lanolin. It is free from any tendency to eventually discolor the products in which it is used or to impart an undesirable odor to them. Its water absorption is substantially greater than that of absorption base containing either lanolin or lanolin isolates.

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SORBOTEX 301 makes white, stable water-in-oil emulsions. In the presence of an alkali, it is also a highly effective emulsifier and stabilizing agent for oil-in-water emulsions, an advantage offered by very few types of absorption base.

Uses

SORBOTEX 301 is applicable to night creams, cold creams, ointment bases, permanent wave preparations, etc. It can also be used as an extender for lanolin.

Suggested percentages: In water-in-oil emulsions, that is, creams having a high fat-content, such as night creams, for instance, up to 25 percent. In oil-in-water emulsions, that is, creams with a low oil-content, such as vanishing-type face and hand creams, up to 5 percent. In permanent wave preparations, up to 2 per cent.

Make this test

Make a small batch of one of your creams, replacing the absorption base that you are now using with Sorbotex 301. Compare the cream containing Sorbotex 301 with that made with your present absorption base, as to appearance, texture, emollient effect, and stability. We will gladly supply the Sorbotex 301 required to make the test, without charge.

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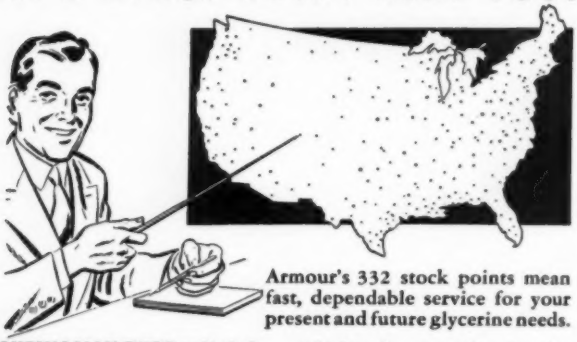

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"cradle cap" or "milk crust"—one of the commonest conditions seen during the first year in babies.[15] The use of a suitable oil regularly after the shampooing will help to prevent this condition.

Stavesacre seed oil is a frequent constituent of many of the older, standard baby scalp or hair oils, it being believed that it helps to prevent scurf and scabies. One simple product based on this oil contains:

Oil of stavesacre seed	**30.0 per cent**
Olive oil	**70.0 " "**

Prepared by simple mixing and filtering, the product may be perfumed slightly if desired.[16] A somewhat more modern baby scalp oil, containing chlorothymol as an antiseptic, is made with:[17]

Olive oil	**91.25 per cent**
Stavesacre seed oil	**8.50 " "**
Perfume	**0.15 " "**
Chlorothymol	**0.10 " "**

Stavesacre seed extract may also be used to make a stavesacre lotion or nursery hair lotion; the following procedure being recommended:[11]

Stavesacre, in coarse powder	**100.0 Gm.**
Acetic acid	**50.0 cc.**
Alcohol	**100.0 cc.**
Oil of lemon	**0.4 cc.**
Oil of lavender	**0.2 cc.**
Oil of geranium	**0.2 cc.**
Glycerine	**50.0 cc.**
Water, to make	**1,000.0 cc.**

Boil the stavesacre with the acetic acid and 800 cc. of water for 10 minutes in a covered vessel and set aside until cold. Add the oils, previously dissolved in the alcohol, filter, and add the glycerine and sufficient water to make the required volume.

Neglect of scalp care results in seborrhea or milk crust, characterized by the formation of dirty-yellow crusts on the scalp. Only local treatment is required for this condition. According to Burdick,[18] the crusts are first softened with oil and then removed by thorough washing with warm water and soap, after which an ointment containing 2 per cent resorcin or 10 per cent sulfur should be applied. The oil and soap and water are repeated every few days or as often as the crusts form. In the meantime, the scalp is kept covered with the ointment.

Diaper rash is another very common and annoying skin condition of babies, but one that usually yields to proper care. The condition may range from a simple erythema to a frank dermatitis; its essential causes being moisture, friction, lack of cleanliness, and sometimes infection.[18] The best treatment is prophylactic. The diapers should be washed with scrupulous cleanliness, rinsed thoroughly several times in clear water and then put through a final rinsing in boric acid solution (e.g. 3 tablespoonfuls of boric acid per gallon of water).

The use of soap and water on the affected parts should be avoided; an oil being used to cleanse the area.[19] A soothing lotion such as the one recommended by Andrews,[20] may also be useful, especially if

there is much exudation:

Phenol	0.6 parts
Glycerine	45.0 "
Magnesium carbonate	6.0 "
Zinc oxide	90.0 "
Olive oil	60.0 "
Witch hazel water, to make	240.0 "

Soothing ointments are also helpful, such as one made of:[19]

Purified tar	3.0 Gm.
Zinc oxide	8.0 Gm.
Starch	8.0 Gm.
Simple ointment, to make	30.0 Gm.

Powders are very useful in the treatment of diaper rash. Lowenburg,[21] for example, suggests that after drying, the buttocks be freely dusted with a powder composed of equal parts of calamine, zinc oxide, Fuller's earth and bismuth subcarbonate. This powder soothes the skin in addition to being highly absorbent. Where exudation is slight, Andrews suggests the use of an antiseptic powder made by mixing:

Thymol iodide	4.0 parts
Boric acid	2.0 "
Zinc oleate	4.0 "
Talc	90.0 "

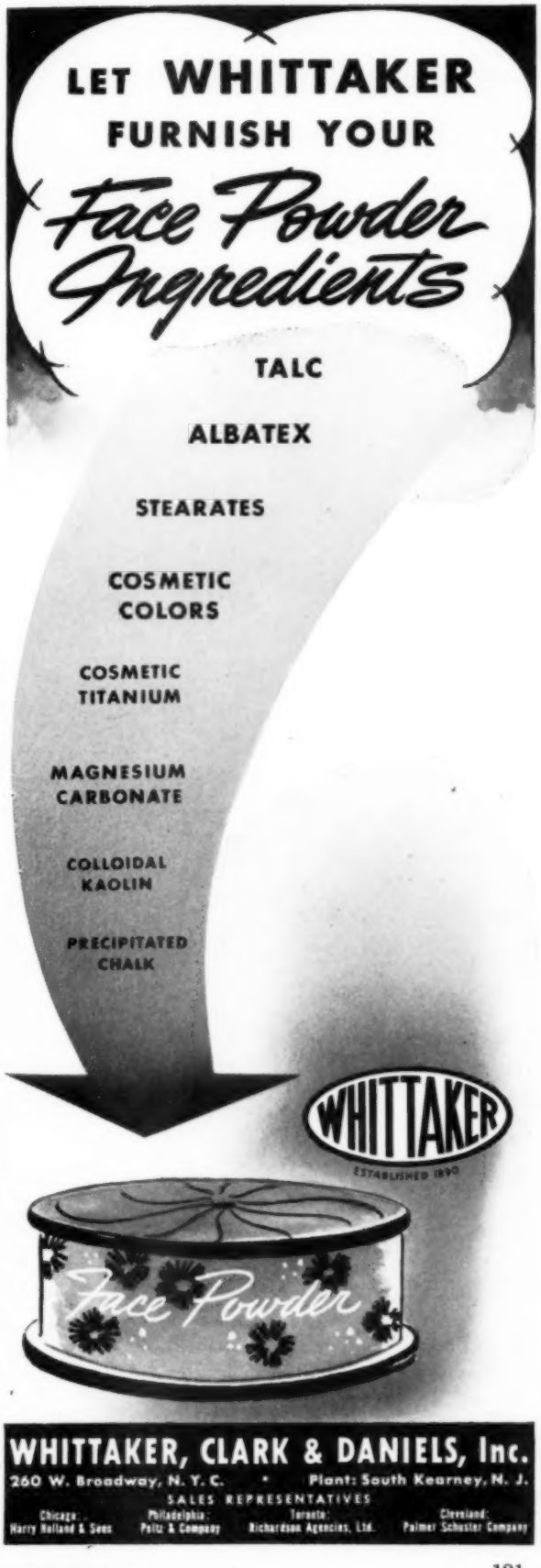
Far from being limited to summer, prickly heat (miliaria), another common skin disorder of babies, may arise from overheated rooms or excessive clothing. Witch hazel water makes an excellent evaporating lotion for this condition. It may be used alone or combined with an equal volume of a saturated solution of boric acid, according to Perlman.[18] A further modification suggested by this dermatologist, similar to lotions recommended by other workers, consists of:

Boric acid	8.0 Gm.
Zinc oxide	16.0 Gm.
Witch hazel water	60.0 cc.
Lime water, to make	180.0 cc.

Various powders are used to absorb moisture and relieve irritation in cases of prickly heat. One simple composition suggested by Perlman as a dusting powder for this condition is made by mixing equal parts of boric acid, magnesium carbonate and starch. Also serviceable is a dusting powder made from equal parts of prepared calamine, bentonite, zinc oxide and starch. If itching is an annoying symptom, it may be relieved by the use of powders containing powdered camphor, as in the following preparation:[22]

Powdered camphor	2.0-4.0 parts
Starch	16.0 "
Zinc oxide	16.0 "

While this discussion has been limited to baby products for external use, it must not be forgotten that many pharmaceutical manufacturers, including many of the most ethical houses, have found it good business to prepare complete drug lines especially designed for youngsters. Accurate, easily regulated dosages, good flavor and pleasing appearance are important factors in such internal-use products for babies and children.



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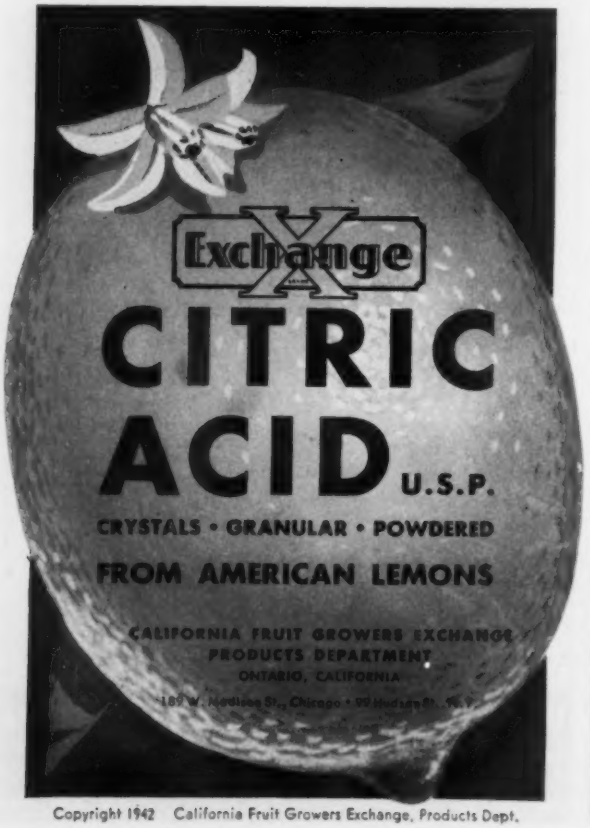

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Conquest of Bacteria

(Continued from page 47)

newly inducted recruits." It was estimated that in a center of 30,000 recruits one can anticipate a saving of 30,000 hospital days each month during seasons when respiratory diseases are prevalent. This is equivalent to freeing a 1,000 bed hospital and all the labor and personnel associated with the care of the sick. The most striking reduction occurred in hemolytic streptococcic infections such as scarlet fever, tonsilitis, pharyngitis, suppurative infections and rheumatic fever. Primary streptococcic pneumonia was eliminated and meningococcic meningitis was extremely rare. The incidence of virus infections such as measles and mumps was not decreased. While the attack rate from pneumococcus pneumonia was decreased, the morbidity rate remained high. Thus, it has been demonstrated that the sulfonamides are effective prophylactic agents in many diseases of the respiratory tract and in particular those due to the hemolytic streptococcus and meningococcus.

Following the discovery of sulfanilamide, it was a great disappointment to find that it had no beneficial effect on pneumococcus lobar pneumonia. Only partial success had been achieved. By using type specific serum the average fatality rate had been cut in half, but there were many difficult problems remaining. It was only 2 years after the development of sulfanilamide for medicinal uses that a derivative was discovered in sulfapyridine. This drug was effective against the pneumococcus. Its discovery was soon followed by others so that we have at the present time at least 5 sulfonamide derivatives which are effective against this disease.

Experience of the Equitable Life Assurance Society of the United States is enlightening. An analysis of their experience with pneumonia among large groups of industrial employees carrying group health and life insurance was made, and a comparison between the pre-sulfonamide years 1935-1937, and the period from January, 1939 to 1942 was noted.

In this short period of time, there was a reduction in the case of fatality rate from an average of 20.8 per cent to 3.9 per cent,—one fifth of the former rate. Also, it was significant that there was a decrease in the total duration of illness from the most frequent period of 38 days in 1935 to 27 days in 1941. It was calculated, therefore, that the advent of sulfonamide therapy has proved a boon to industry, in saving at least some twenty-five thousand workers annually. A further annual saving of over a million working days has resulted from the shortening of the period of illness.

It might be added, however, that the fatality rate in pneumonia in the general population between the ages of 15 and 65 is now of the order of 4 per cent. I have been informed of one series of 1300 cases of lobar pneumonia in a single military camp without a single death. One needs no further testimony to convince even the most sceptical about the value of the sulfonamides in pneumococcus pneumonia.

It is a great privilege to have witnessed a period when for years there was no specific treatment for pneumonia, then a period when specific serum for a few specific types reduced the fatality rate by half, and finally a period of chemotherapy when the fatality rate has been reduced to one fifth of its former rate. It may be added that penicillin is as effective as the sulfonamides, and it may have a favorable effect in some cases when the sulfonamides have failed.

Before the days of the sulfonamides the fatality rate in Meningococcus Meningitis, which occurs either sporadically or in epidemic form, was in the neighborhood of 40 per cent. Now, it is less than 5 per cent. It is also firmly established as a result of the investigations of the Army Epidemiological Board that carriers of meningococci can be rendered free of organisms within 48 to 72 hours with only 1 gram of sulfadiazine a day. Recent studies in our Navy have demonstrated that men on prophylactic doses of sulfonamides rarely acquire this disease. You will agree with me that this achievement is one of great moment, and important in both civilian and military medicine.

One of the soldier's greatest enemies is dysentery. It was bacillary dysentery and not the Turk that drove the British out of Gallipoli during the last war. In this campaign, at least 100,000 casualties were due to dysentery. At one time, during this war, dysentery was a greater threat to the capture of Port Moresby by the Japanese than any other factor. The sulfonamides aided enormously in saving the day. The average fatality rate for dysentery has varied in the past from 10 to 20 per cent, depending upon the type of dysentery and other associated conditions. In those patients recovering, the average number of days of treatment in a series of 2,000 patients in the British Army in 1917-1918 was one hundred and forty-one days—and what days they were for many of the victims of dysentery. A German soldier of that time wrote that "dysentery dissolves our bowels; the latrines are densely crowded; the faces are grey, yellow, miserable and wasted, and from the bodies of these beat figures the colic wrings

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out the blood. With trembling lips, distorted with pain, some grin at one another and say, 'It's not much sense pulling up one's trousers again' ".

But all of this is changed with the use of the sulfonamides. The fatality rate in bacillary dysentery at present is less than one half of one per cent, and the average number of hospital days for its victims has been between 14 and 16 days. The acute symptoms have frequently disappeared within 72 to 96 hours,—a phenomenal change indeed.

The sulfonamides were surprisingly effective in the treatment of gonococcal infections, and the results were far superior to any other previous form of treatment. This was also true when they were used as prophylactic agents. There were some failures, but the use of the sulfonamides changed the course of this disease in a most extraordinary way.

In addition to these infections, the sulfonamides have been of great value in the treatment of infected wounds and burns. Invasive infections have been reduced and the fatality rate is exceedingly low.

Thus, we can say that the sulfonamides have made a tremendous difference in the outlook of infectious diseases. Their scope and limitations have been fairly well defined. They have saved many lives, many days of illness and much suffering. Their discovery served to stimulate investigation in the field of chemotherapy at an unprecedented pace.

In 1941, we were all aware of the fact that the sulfonamides were of little value in the treatment of staphylococcus infections. This was a serious matter, because the staphylococcus is the commonest organism in wound infections, and it causes many cases of acute and chronic diseases of a serious nature. It was at this time that interest was aroused in penicillin, the greatest of all chemotherapeutic agents so far discovered.

It is really a "magic bullet" with tremendous power to destroy bacteria without destroying or damaging tissue. For example, one milligram of crystalline penicillin (or 1666 units) will inhibit the growth of staphylococci in 82 liters of nutrient broth. Thirty milligrams is adequate to cure most cases of gonorrhea within 24 hours.

It is the most effective chemotherapeutic agent in all of the infections due to gram positive organisms, including the staphylococcus, hemolytic streptococcus, pneumococcus, the gas bacillus, and the anthrax bacillus. It is truly extraordinary that it is effective against both syphilis and gonorrhea. Certainly it is the best drug available for the treatment of such diverse diseases as pyogenic meningitis, bacterial endocarditis, mastoiditis, empyema, lung abscess, and bronchiectasis, acute and chronic osteomyelitis, and infected wounds and burns.

The value of penicillin in military medicine and surgery cannot be fully assessed at the present time. A recent citation upon the occasion of the award of the Legion of Merit to Major Champ Lyons is pertinent. "He initiated and guided the methods by which the

new and potent agent penicillin has been utilized in the seriously wounded. From the most forward mobile hospitals in Italy to the large general hospitals of the interior he has personally operated on and studied the treatment of the wounded. . . . . Lives and limbs of soldiers have been saved and the disability and deformity of wounds materially reduced."

In essence, there is no other chemotherapeutic agent known that can do so much with so little for so many diseases. When we stop to consider that 2 years ago less than 50 patients had received penicillin and that today there is an adequate amount for our armed forces and for those of our allies, and a moderate supply for civilians, it is a great tribute to collaborative efforts. The mobilization of all forces to bring this about is one of the unique accomplishments in medical research. Your industry deserves high praise for the magnificent part it has played in its development.

What is the outlook for the future? The present period has been called the golden age of therapeutics, and chemotherapeutic agents have proved their value in the control of many infections. The way is now open for the continuation of research and development in this most important field. In this country, there is no lack of imagination, there is no shortage of workers with a high capacity for original thought, and material resources are not lacking to give them the support which is needed to bring this thought to full maturity. But there is much that remains to be done. We recognize that there are no effective chemotherapeutic agents against virus diseases, nor against the tubercle bacillus. Many of the gram negative organisms resist the action of all agents. We need better chemotherapeutic agents for the parasitic, and for many of the insect borne diseases. The problems continue to be numerous. However, we have every reason to hope that new agents will be found which will be effective against infectious diseases which continue to thrive in the face of our present medicinal agents.

In the conquest of bacterial infections, the collaborative efforts of the pharmaceutical industry and medicine have been outstanding. That these cooperative efforts will continue there is no doubt. Each has something to contribute to a common objective. Let this objective be the advancement of medical science for the purpose of better health.

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Oil of sassafras	**0.5 "**

Gum acacia may be substituted for the tragacanth, and other flavoring agents may be employed if desired.

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ANTI-PERSPIRANT PROBLEM: I have prepared an anti-perspirant cream of the vanishing cream type as suggested in the article appearing in the June issue of DRUG & COSMETIC INDUSTRY. *Recently I opened one of the jars after it had been on the shelf for about three months. I noticed what appears to be two or three small crystals of aluminum sulfate on the surface. The surface appeared to be a little hard. No crystals or hardening was present in the body of the cream. Can you tell me why this preparation should begin to crystallize out after two or three months? New York City.*

This preparation has stood up quite successfully under various conditions. Since only the surface is hardened and crystals appear in this hardened crust I attribute your difficulty to a poor fitting closure which has permitted evaporation of moisture, thereby causing recrystallization of the aluminum salt.

HONEY AND ALMOND HAND CREAM: I beg to request information in connection with a formula for a liquid cream in the composition of which there enters honey, almond and stearic acid. If you have any such formula, I should appreciate your sending such to me for which I thank you in advance. Cuba.

A modern preparation of the honey and almond *type* can be made from:

Propylene glycol stearate	**2.0 parts**
Triethanolamine	**0.4 "**
Honey	**3.0 "**
Diethyleneglycol monoethylether	**3.0 "**
Tragacanth mucilage 2%	**10.0 "**
Ricinoleic acid	**0.8 "**
Stearic acid (triple pressed)	**5.0 "**
Water	**75.8 "**
Preservative	**sufficient**
Almond perfume	**sufficient**

CREAM SHAMPOO: Would you be so kind to write me the formula of a cream shampoo, if possible with lanolin? Shampoo cream looks like cleansing cream. Thank you so much. Los Angeles.

A cream shampoo can be made, according to one suggestion, by reducing the water content of an ordinary liquid shampoo. Or, you can buy a ready made soap paste and adjust its consistency by adding water. A small amount of lanolin may be added to impart the desirable qualities and opacify the cream.

As I have pointed out in previous Readers' Questions, a good grade of lather shaving cream makes an excellent cream shampoo, and very little, if any, modification is required in the formula. Such a product can be packaged in a tube or a jar. Methods for manufacturing such shaving creams have appeared in recent issues of this publication.

QUESTIONS

FOOT POWDER: I have been told that the Army issues a foot powder to prevent excessive perspiration and athlete's foot, and which is useful in treating various conditions of the feet. It seems to me that such an item ought to have good sales possibilities for general use by the public. Is the formula available, or is it a military secret? Hoboken.

The formula for this powder is not a military secret. It was published in an article on foot preparations in this journal back in September 1943. It originally appeared in the manual of dermatology prepared under the auspices of the National Research Council. The Army issue powder consists of:

Salicylic acid	**2 Gm.**
Boric acid	**6 Gm.**
Zinc stearate	**3 Gm.**
Exsiccated alum	**1 Gm.**
Starch	**10 Gm.**
Powdered talc	**78 Gm.**

A recommended alternate formula is prepared from:

Zinc peroxide	**10 Gm.**
Tannic acid	**5 Gm.**
Boric acid	**20 Gm.**
Bentonite	**10 Gm.**
Talc	**55 Gm.**

SOAPLESS SHAMPOO: I am very interested in finding a formula for really high grade shampoo using an organic detergent. If you should happen to have such a formula, I would greatly appreciate getting it. Seymour.

A shampoo based on the use of organic detergents may be prepared from:

Sulfonated castor oil	**78 parts**
Sulfonated olive oil	**20 parts**
Mineral oil	**2 parts**

The mineral can be omitted, it is included only to give the hair a lustrous finish. This may be colored and perfumed as desired.

BILE SALTS: I have written to several companies regarding information on sodium cholate. I find that standard suppliers do not list this item and another wanted to send me a sodium glycocholate compound which they insist is the same thing. For the purpose for which I intend to use this preparation, I am inclined to believe that sodium cholate is something different from either glycocholate or taurocholate. I would appreciate any information which you may have available on sodium cholate. Jamaica Plains.

I agree with you that there is such a substance as sodium cholate. It is one of the natural bile salts. I can also understand your difficulty in obtaining this chemical because it is but little used in industry or medicine, the higher bile salts being much more generally employed.

Since you probably wish to use bile salt as a surface tension depressing agent, I think a fairly pure grade of mixed bile salts will serve your purpose.

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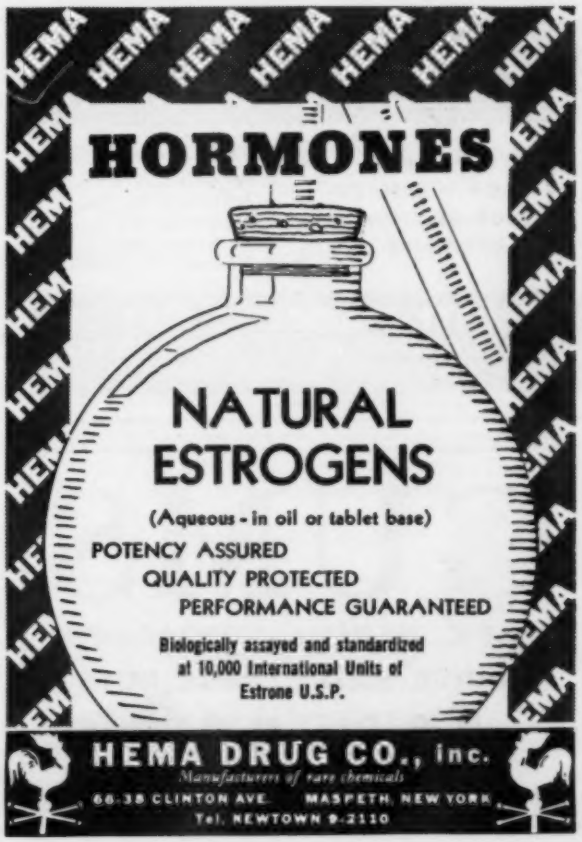

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CUTICLE OIL: We have checked No. 11 Cuticle Softener on page 357 of "Modern Cosmetics" and do not feel that it is quite the product in which we are interested. The formula we would like to have would be what is commonly known as cuticle oil. Can you give us such a formula? Indianapolis.

I think that the following formula will probably provide an answer to your request for an "cuticle oil:"

Lanolin absorption base	**25.0 parts**
Mineral oil	**16.0 "**
Beeswax	**3.7 "**
Perfume (light floral type)	**0.3 "**
Distilled water	**55.0 "**

VITAMIN REQUIREMENTS: I know that the Food and Drug Administration has set up standards for minimal vitamin requirements. Recently, I found out that the National Research Council has also made recommended daily allowances for vitamins and that they are higher than those required by the F.D.A. Can you give me any information concerning adult requirements for vitamins according to the Council's recommendation? Brooklyn.

The National Research Council, Committee on Foods and Nutrition goes into considerable details on vitamin requirements according to age levels, sex and type of work. However, the daily requirement of each of the following vitamin fractions for a normal adult, as recommended by the Council is:

Vitamin A – 5,000 U.S.P. or International units
Thiamin Chloride – 1.2 to 2.3 mg.
Riboflavin 1.8 to 3.3 mg.
Nicotinic Acid – 12 to 23 mg.
Ascorbic Acid – 70 to 75 mg.
Vitamin D—400 to 800 U.S.P. or International units

SOLID OR SOLIDIFIED PERFUME BASES: We have been experimenting with the manufacturing of a so-called solidified or solid perfume, and have attempted to use various combinations of ingredients, to serve as a base or carrier. None that we have yet attained is quite satisfactory. It has been suggested that we inquire of you for such suggestions as you may have as to a suitable carrier or base, and the manner of its preparation. If you can throw any light on the matter, we should indeed appreciate it. New Haven.

A suitable non-greasy product which has been found to give excellent results may be prepared from:

White beeswax	**20.0 parts**
Japan wax	**20.0 "**
Ethyl phthalate	**40.0 "**
Concentrated flower oil	**20.0 "**

By varying the proportion of wax and fixative, hard or soft products may be obtained; the perfume base may be chosen according to the requirements.

Another standard procedure which has frequently been employed is as follows:

Stearic acid	**9.0 parts**
Alcohol	**50.0 "**
Warm together until dissolved, and then add:	
Caustic potash	**1.0 "**
Water	**40.0 "**

Heat and mix on a water-bath until clear. Cool to 50° C. and stir in perfume. Pour into molds.

PERFUME MISCIBILITY: In making oil shampoo I find adding perfume causes a sediment which has a tendency to make the shampoo cloudy. Can you give me any information as to how the oil of perfume can be used and still keep the shampoo clear? This is a lather oil shampoo made from a paste. Any information will be gratefully received. Detroit.

This is a question of compatibility. I would suggest that you get in touch with any one of the several perfume manufacturers who advertise in our publication. I think that most of them can supply a suitable, miscible perfume composition.

DRY FACE PACK MIXTURE: Could you furnish us with a face pack formula which can be marketed in powder form, the consumer mixing several teaspoonsful in a cup of water to form the paste, after cooling this paste, to be applied on the face to form a mask? Valparaiso.

Bentonite, as such, has been suggested for this purpose, but since it forms a somewhat slimy mixture when wet with water, it is not particularly pleasing. In combination with kaolin and fuller's earth, bentonite gives a product which is easily made into a suitable cream by the addition of water and which does not dry too rapidly on the skin and is easily removed at the end of the required period of application. A suitable formula is as follows:

Kaolin	**30.0 parts**
Fuller's earth	**50.0 "**
Bentonite	**20.0 "**

DRUG EXTRACTION AND ALCOHOL CLARIFICATION: Please advise me where I can get the best hand book on the manufacture of medicinal extracts from roots, herbs, barks, etc. I would like a book that is simplified enough that a person who is neither a chemist nor a pharmacist could use it. If you could advise me, I would like to have some simple recipe for cleaning up alcohol and reclaiming it without the use of any elaborate outlay of equipment. It seems to me there may be some substance that, when shaken up with the contaminated alcohol, would remove the impurities without itself mixing with the alcohol. Thanking you in advance for the above information. Newland.

I really do not know of any elementary text books on the preparation of medicinal extracts by simple methods. As a matter of fact, most processes for drug extraction are fairly simple but a certain amount of control is necessary to produce the best product. Standard and fairly easy methods for preparing extracts are quite fully described in the United States Pharmacopoeia. Of course, any standard text book on pharmacy would give you the same information with perhaps a little more elaboration.

Regarding your second question concerning a simple method for cleaning and reclaiming alcohol, I would recommend as the simplest procedure that you either filter the alcohol through granular activated carbon or add a small quantity of pure activated carbon or charcoal to the alcohol, shake thoroughly and then filter through a fairly good grade of filter paper. This should remove most of the color, odor and coarse impurities but of course it cannot be expected to remove soluble materials and water.

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